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J. W. STEARNS, EDITOR.

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RESPONSIBILITY OF PUBLIC SCHOOLS IN THE FORMATION OF CHARACTER.

[Paper read before the Milwaukee County Teachers' Institute.]

Strictly speaking, responsibility is a relation between persons. An insensate thing or an abstraction can neither be the subject nor object of it. The school is neither a responsible agent nor one to whom we can owe responsibility. Men are responsible, and other moral beings; and responsible alone to men and other moral beings, in the ultimate resort to a personal Creator, or else not at all. The teachers of a public school are responsible for its standing and work; so also are the trustees or local board; so in a remoter sense are the electors and patrons; so is the whole community, or rather the persons of whom it is composed.

To speak of the responsibility of the school is to personify it, which, while not strictly accurate, may be an allowable license of speech, in order to idealize and differentiate its position. Responsibility is implied to be commensurate with ability, in the topic assigned to me; and a free rendering of it, to my mind, is, what is the proper and natural work of the school in the formation of the character of its pupils. To open this subject, it will be necessary to begin with the ideal school, and inquire what it may be, before we descend to the practical, and ask what it is.

As to the possible value of the teacher's *office* in the line of moral effect on the scholar, there are not two opinions. The greatest men of every age, all the way along from Marcus Aurelius to Edmund Burke, have given personal testimony to the decisive influence of some honored

teacher in laying the foundation of their subsequent attainments. The question for us is how the school as an institution is fitted to the promotion of these moral ends.

Character is a somewhat difficult word to define; but dependent upon our idea of its signification will stand our opinion of the relation of the school to its development. Character is from the Greek, *charasso*, to cut in furrows, and this probably from *cheir*, the hand, that is hand cutting, and used to signify the bold distinctive lines in sculpture that distinguish one face or figure from another. The great principles and determining laws that govern the action of an intelligent and moral being are, therefore, said to be characteristic. Character, then, lies in deep, strong lines and lasting impressions. Manners, deportment, behavior, while they imply character, are but its drapery and clothing. And the educational institution which makes much of the former qualities, may altogether fail to reach the latter. A school that aims to form character must bear a firm hand on the plastic souls committed to it. Nor is character to be limited purely to the moral nature: the same great principles, in somewhat different application, give consistency and moulding to the intellectual life. It is the fashion in our day to endeavor to find natural laws in the spiritual world. In like manner it would be interesting and valuable to trace intellectual laws in the moral world, and so, vice versa, moral principles in the intellectual life. Though dealing with the moral side of the laws of character, I shall in the few moments I dwell upon them, of course, imply the moral quality of true thinking as well as of right acting.

The first relation of the school to character is naturally in the way of government and discipline. The government of a school is generally viewed as improtant in facilitating intellectual results. Good order is necessary that the scholar may be induced to study and recite to the best advantage. That discipline is itself a department of school work, important in the same sense as study and recitation of Algebra or Astronomy, is too seldom conceived of. The good boy is the teacher's ally and convenience, but the brilliant boy is the teacher's delight. No dull boy passes his examination by behaving himself well, though of course sometimes the bright one may be rejected for misbehaving. If I should say that moral discipline is one of the grand ends for which the school exists, and that the branches of study are only adjuncts to this, I should probably be thought visionary. To learn facts is sup-

posed to be the end of teaching, to develope conduct a mere incident, —a sad reversal, in my opinion of the object and work of a public school.

By discipline do not understand me simply to mean the securing of prompt and quiet obedience to the will of the teacher; nor such thorough organization that everything moves, as we say, like clock-work. This may, like the clock-work, be simply mechanical and not moral at all. I fear that too many well disciplined schools, so called, are too much after this sort. By the excitement of certain lower motives in the scholar, such as dread of punishment or desire for awards, or, or even pleasure in the jingle and military display which some schools parade as good order, the teachers may secure a certain result without touching the central springs of character at all, and so without attaining what I mean by moral discipline. But the training in habits of promptness, orderliness, willing assent to rules of conduct, self-control in all the spheres of school life, courtesy—in the deep sense which means true manliness,—what can be more worthy of the teacher's highest attention and persevering effort? Not only is want of governing power fatal to a teacher's success in the ordinary sense, but want of this idea of government is fatal to any worthy result of a teacher's work.

Again the general aim and purpose of the school upon which the idea of discipline rests, will determine its relation to the formation of its pupils in right principles of life. This aim, or want of it, is as manifest in a school as in an individual human being. This aim or aimlessness, whether understood by the teacher or not, pervades every department and aspect of school activity. If the purpose is to make a good display, to do that kind of work carefully which will appear on the surface and win the plaudits of the school visitor or trustee, to show fine examination papers and class records, then finally to launch all the graduates into life with flying colors and a marvelous pyrotechnic outburst of commencement oratory and wisdom, all this will be readily manifest and will doubtless have its reward. But if the aim is to develop men and women and prepare them for usefulness in a life work, if the ideals are character, principle, solid attainments in intellectual culture, though the display be not so great, the result is of a far different order. And upon this central aim will depend more than upon any other one thing the value of the school in forming character.

Let us next consider the relation of intellectual studies and methods of teaching truth to the growth of strong and noble character. In the first place, truth is seen not simply in particulars but in parts of a system, and there is no system of intellectual truth but has its moral side. If, for example, the teaching is purely materialistic, if the existence of a super-sensual world be ignored, then the whole moral point of view is altered. If man is but a descendant of the mollusc then his nature is but a development, and the decisions of the moral judgment are not final and authoritative; the grounds of moral action are nullified, being reduced to self-interest or utility. The influence of such teachings as are being insideously pressed upon the common schools of some of our cities is perilous in the extreme as regards the moral outcome. Character has its basis in truth, and if to-morrow we die, soul and body alike, then the only logical exhortation is the one of the scripture: "Let us eat and drink," indulge our passions like the brutes from which we come. But without going farther with this thought, there are certain specific methods of teaching the same essential facts which will have tremendous moral bearing on the scholar's character.

1. Thoroughness, or the want of it. Mastery of all the facts in any given case and unflinchingly facing all the objections to any given theory. Not the teaching of a form of words or a second-hand statement, but the inciting of original thought and demanding a personal appropriation and incarnation, as it were, of the truth on the part of the scholar. Thoroughness is not only an excellence to the understanding but a promoter of right moral action. All falsehood comes from half truths, and the disposition to rest content with surface evidence is a preparation for prejudice, half-statement, equivocation, and so falsehood. How much of the moral shallowness and want of powerful conviction of our time comes from the superficial methods of teaching facts, I will not undertake to say; but a thorough, courageous and manly examination of everything that calls itself truth on the part of educational institutions would be the highest service to the moralist and preacher of righteousness.

2. Honesty. I have spoken of half thinking, but the scholar is tempted on other sides to a mental dishonesty. He is tempted for the sake of show to undertake to present a better impression than his study merits; for the sake of the teachers approbation to make use of illicit helps, and to deceive his teacher with all sorts of plausible evasions of study.

It requires persistent and faithful work on the part of the teacher, and the risk of much personal annoyance, to expose the faults and insist in every case upon honest work; and the teacher whose aim goes no higher than the show of successful teaching is tempted to ignore and gloss over what will soon, if neglected, grow into serious faults of character.

3. Reverence. To awaken youthful curiosity and train the analytic faculties is the first necessity of education; but to govern and restrain this spirit of inquiry into healthful channels is far more difficult. To begin with teaching to question every thing in heaven and earth is easier than to lay down again, after the destructive analysis, the foundation of synthetic thought and positive belief. Hence a want of reverence is, in many educational quarters, regarded as the only bracing intellectual atmosphere. It needs more and more to be insisted upon that thought begins with reverence and faith, not with doubt and denial; that the skeptical, that is the analytic, method is useful to prepare for thought, to clear away rubbish, and falsehood, but will never lead us to positive truth. Some well known colleges in our country which I might mention have been guilty of this cardinal sin; they have tried to excite an intellectual appetite by critical methods, but have left the spirit in starvation for want of positive convictions. No doubt a moral and religious skepticism, if not a general Pyrrhonism has come in mature manhood to many minds from the over excitement of the analytic faculties without reverence by some teacher, who has, as it were, amused himself, in witnessing and, stimulating a crude, captious, sneering spirit in his scholars, without caring to consider what might be the final consequences.

4. Enthusiasm for truth. This means more than thorough work and honest methods. It means love for them and joy in them. The soul is made for truth; its highest felicity is in discovering it. Says Hare, "One of the two greatest moments in life, is the thrill of the first discovery of truth, the other is the recognition of a kindred spirit." It is the teacher's privilege to open the door of some of truth's treasure-houses. This can never be a formal mechanical service, but needs the glow of the imagination, the kindling of the emotions, the surrender of of a passionate spirit. One of the grandest things in this life is the awakening of this longing for the true, the kindling of an overwhelming aspiration for higher thought, which shall with beacon light call us

through all this weary tract of years with increasing ardor of being. On the other hand, what is the mortal injury to the intellectual life of youth of that Dryasdust, machine method of withering and dismembering the glorious tree of truth, and binding up the fragments into the lifeless fagots of petty rules and formulas! Who of us now in middle life has not been robbed of rich argosies, floated down the stream of time to us from the ancient Classics or other treasure cites of thought, by the finical, lifeless grinding of certain classroom methods? It's the rose of truth we need to teach, with the dewdrops on its petals, and the full glow of the opening beauty and fragrance of its unsullied heart, not as a subject for chemical analysis which reduces it to dust and tortures it in a crucible. This enthusiasm for truth is one of the most vital elements of a sturdy character, and the nil admirari tone of mind is a deadly foe to all moral and religious impressions.

But without naming other moral elements in the intellectual work of teaching, we proceed in the next place, for, a moment, to view the teacher's personal opportunity and so responsibility in the formation of character. No one in the world except the mother is in a position to exercise such controlling influence over a child as a loved and respected teacher. In his constant presence and oversight for a large portion of its waking hours during the most formative and decisive years of early life, even the mother has scarcely such access to the child's inner life. The position of natural adviser and constant companion to which the the faithful teacher is entitled open to him a thousand channels of daily influence. His own unconscious bearing, manners, gestures, mode of speech will come to be copied by his pupils, so that it is almost amazing to a careful observer to see the teacher parodied in almost every motion of his scholars. His views of life, his general tone of mind, above all, his personal habits never fail to reproduce themselves in large measure in those under his charge. Who then can estimate the baneful influence of that teacher who indulges in the slightest hint or suggestion that borders on impurity? whose lips are ever polluted with a profane or vulgar word, who is observed to be addicted to the filthy habit of tobacco using, or indulgence in intoxicating drinks? I am sorry to say that cases of every one of these have come within my own observation, though I think they are rare upon the whole. These are faults confined to the male sex. A lady teacher can as little afford to appear before her scholars in a frivolous aspect, eager for the attentions of the

other sex, or engaging in unbecoming flirtations, before those argus eyed pupils whom nothing escapes. If the teacher is to inculcate personal neatness, order, self-control, cheerfulness of temper, he or she must begin with the strictest practice of them himself; for even the slightest dust upon the coat, stain upon the shoe, or wrinkle in the linen may be imitated in less than twenty four hours.

Then again this aim and sense of a mission to perform, which I have spoken of in connection with the general work of the school, must be conspicuous in the personal conduct of the teacher toward the individuals under his charge. To develop their higher natures is his work; and he must lose no opportunity to advance that end. He is to know, them intimately; to enter into their inner liver; to seek their confidene, and familiar companionship, yet without losing dignity. The class-room is not the only sphere of this work. He should chat with them by the way, at the recess, visit them at their homes, enter so far as is possible into their sports, plans and youthful hopes; then at the happy moment of unguarded confidence what wonderful opportunity is his to drop the seed that shall ripen into noble character. He watches, with more interest than the gardiner the blossoming of his favorite flower, the changes and crises of their early life; and before they are themselves aware of them, he can perceive the first beginnings of progress in righteousness or evil, and thus is enabled to accomplish more perhaps than any other human being to turn the balance toward the heavenly and true. I never think of the teacher in this light but I envy him his noble opportunity, and I would charge him above all to magnify his office.

The effect of the reciprocal influence of scholars upon one another in the growth of character is also to be considered, though we cannot dwell upon it. It must be used by the wise teacher for his own purposes; otherwise it will be perverted to their injury.

Thus far I have endeavored to trace briefly some of the lines of influence of the ideal public school in the formation of character. How far the school may be reasonably held responsible under our present modes of management is a more difficult question. There are certain well known hindrances to the best effectiveness of the school, in this direction to which I must allude as I close this paper.

The first hindrance originates in the carelessness and indifference of the public, but locates in the trustees or local board. It is not always

when school meetings are scantily attended that the most conscientious or most efficient will be chosen to administer school affairs. Even if there be no partisan feeling and petty wire pulling we are fortunate. It is not surprising that trustees thus chosen should often so use their office as best to secure their own ease or private interests. It has been found necessary in some of the states to prohibit the appointment of relatives of the trustees as teachers; so great has been found the tendency to personal and family favoritism. But in general how seldom are the moral qualifications of the teacher made at all the prominent point of enquiry. If the credentials read well as regards class-room work and knowledge the case is rested, often without examining the personal history of the applicant. Then the trustee is too often afflicted with a desire to show a false economy, reducing the salary to the lowest possible sum which will secure a teacher, thus ensuring a lower grade of teachers and entailing a series of evils. The teacher once appointed is supposed to make no more trouble until pay-day. He is not to disturb the trustee in way or take up his valuable time. So the teacher is either monarch of all he surveys until some complaint is heard, or else the freedom is curtailed before hand as much as possible to avoid bother. The idea of wise superintendence, or faithful visitation or thoughtful encouragement to the teacher, would, to the average district school trustee in many sections, appear a kind of fanaticism.

Another hindrance to the moral influence of the teacher in our graded schools is the practice of frequent promotions, from one grade and teacher to another, thus preventing any lasting personal impressions.

Out of these hindrances in the board grow mainly those in the teacher: first a want of feeling of permanence in his situation, either on account of the insufficiency of salary and the unreliability of the personal favor of the trustee, or the want of a resolution to make teaching a life work. So many of our teachers do not think of making their work a profession. They are doing hack work for pay, to enable them to rise to some higher position. Hence their soul is not put into the business, and mere perfunctory service is the result.

Lastly the patrons of the school often hinder its helpfulness. They do not begin the moral discipline of the child at home which the school is but to supplement. They too often misunderstand the efforts of the teacher to correct the child's faults, and take sides with its complaints

in the most hasty and irrational way. The more faithful the teacher, the greater the prospect that at the critical point the child will be with drawn from his care by the over indulgent jealousy of the foolish parent. Nothing but the firm, steadfast cooperation and encouragement of the parent will give the school the highest efficiency.

But, in general, we may say that while the hindrances are great and the possible vexations innumerable, yet even in the present conditions the incentives to faithfulness are so noble, and the possible effectiveness so incalculable in the formation of character, that the discouragements are scarcely to be considered.

James W. White.

WAUWATOSA, WIS.

PHYSIOLOGY AS RELATED TO STIMULANTS AND NARCOTICS.

IMPORTANCE OF PROPERLY COMBINING THE FOOD PRINCIPLES. —Since the healthy human body, performing its ordinary work, loses daily about 7.6 lbs. of oxygen, .77 lbs. of hydrogen, .6 lbs. of carbon, .041 lbs. of nitrogen and .09 lbs. of other elements; and since the food principles which supply the wastes have a definite chemical composition, it follows that, in order that the demands may be completely met, and that there shall be no needless waste, the food principles must be combined in proper proportions. In the study of the dietaries of well-fed laborers of various classes Dr. Lyon Playfair found that of the three food principles, proteids, carbohydrates and hydrocarbons an average daily consumption of 5.81, 18.63 and 2.42 ounces respectively occurred; and Mr. O. W. Atwater, in his extremely valuable articles in *The Century* for 1887, states that in Germany it has come to be generally accepted that 4.2 ozs. of proteids, 17.6 ozs. of carbohydrates and 2 ozs. of hydrocarbons make a fair daily ration for a man of average size doing a moderate amount of work. These amounts must, of course, be increased or diminished according as the work is greater or less, and according as the surrounding temperature, under which the labor is performed, is high or low. It should also be borne in mind that while the starches, sugars, etc., may, in a measure, be substituted for the fats, and the reverse, there is no substitute for the proteids which are required to repair the tissues; though the latter may serve to generate energy in the body, and thus, in a

measure, replace either of the others, though always at a greater cost. If the food eaten is largely for the production of energy or heat, the fats are worth the most, pound for pound; like anthracite coal, there is more fuel in a small bulk, and hence more can be taken on to meet the demands of the day. This is the main reason why the sturdy lumbermen in our pineries take, by preference, so much salt pork, fat and molasses. Mr. Atwater tells us that "the quantities of latent energy in lean beef, flour, fat pork and butter are to each other as one, two, four and five." Lean meat, which contains so much water, is, for the purposes of generating energy in the body, much like very green basswood in the firebox of the engine.

THE IMPORTANCE OF PROPERLY COOKING FOODS.—It is important that both animal and vegetable food should be properly cooked, and the objects to be attained are several: 1. To make them tender and easily masticated. 2. To make them pleasant to the sight, and to develop in them palatable flavors, which shall tend to induce sufficient mastication and act as natural stimulants to the flow of the digestive fluids. 3. To change otherwise indigestible substances, or those digested with difficulty, into those which are digestible, or are more readily digested. 4. To secure for the foods a temperature more nearly equal to that of the body, in order that less food may be required, and that the blood-vessels in the walls of the alimentary canal may not be so contracted by the low temperature as to reduce the production and flow of the digestive fluids. 5. To destroy parasites which are likely to be in some forms of meat.

The nutrients contained in vegetable foods are always more or less intimately associated with and protected by cellulose, which constitutes the cell-walls of plants and which is not digestible by us. Starch, too, which is the chief nutrient of most vegetables, is not easily digested raw, and besides exists in the plant in minute grains composed of alternate layers of starch and starch cellulose. The process of cooking breaks down the cellular structure, and bursts open the starch granules, so that the starch cellulose is no longer able to prevent the digestive fluids from coming in contact with the starch, while the starch itself is changed into a form more readily digested by us. In the case of meats cooking converts the white fibrous connective tissue into gelatine, thus making the whole tender and easily masticated. If the meats are put into cold water, or into a cold oven, and heated slowly, much of the valuable

portions, especially the flavors, will be lost. If, however, they are placed in boiling water, or in a hot oven, the meat is quickly coagulated on the outside and rendered impervious, so that the juices and flavoring extracts which are developed are retained. Too long cooking, however, at a high temperature tends to make the meat harder to digest, and hence some have advised that after the meat has been well seared over the temperature should be allowed to drop to about 170 F. This temperature, however, is not great enough to insure the killing of such parasites, as trichina and the tapeworms, whose larval forms infest the muscles of the animals we eat; and hence Dr. Letheby advises that all meats should be cooked at a temperature as nearly 212 F. as practicable.

How the Body is Supplied with Oxygen.—We have seen the main anatomical features of the lungs, and the method of causing air to enter and leave them. We need now to understand that the air cells, which constitute the great part of the lungs, are extremely thin walled chambers, very minute individually, but in the aggregate representing a surface of perhaps 650 sq. ft., these figures being an average of three quoted by Flint. Over the surfaces of these cells the pulmonary capillaries form a close network, being so arranged as to have almost their entire surface in contact with the air cells, through the walls of the air cells, through the walls of the capillaries, and into the red corpuscles of the blood, the oxygen from the air finds its way in the manner we have seen the hydrogen enter the clay pipe; and we must keep in mind the important fact that about 1-5 of our daily sustenance comes to the body in the form of oxygen through this channel. At the same time that the oxygen is finding its way into the blood through the cell walls of the lungs, there is passing outward into the air, as we have seen, large quantities of carbon dioxide and water. In addition to these, there escapes also a small amount of ammonia and some organic compound which is very poisonous, and which gives to the air of close rooms its bad odor. The amount of this substance is too small to be detected by chemical meams, but not too small to be detected by the extremely sensitive sense of smell with which we are provided, a sense so sensitive that one part of prussic acid has been detected in 2,000,000 parts of water, and this by sniffing the air above it, so that it must have been still farther diluted. If a mouse is confined in a close stoppered bottle until he has vitiated

the air and seems at the point of death, it will be hardly possible to lower a fresh mouse, by means of a string, into the bottle and take him out quickly enough to save his life, while the carbon dioxide or the absence of oxygen can be shown to have no such effect.

How the Lungs are Kept Clean.—All are familiar with the fact that dust rapidly gathers upon objects in an unused room, no matter how closely it may be kept shut; and how plainly visible a beam of light, admitted to a dark room, makes the dust always floating in the air we breathe. How is it, then, that the walls of our lungs, always wet, do not become clogged with this dust, considering the fact that during forty, fifty, sixty or seventy years we are breathing air containing it at the rate of about 346 cubic feet each 24 hours? In order that the diosmose of gases may take place in the lungs it is necessary that the walls should be kept always wet, and to maintain this condition the lining membrane secretes continuously a mucous fluid. Now to prevent this fluid from settling down and clogging up the air passages, and to get rid of the dust which necessarily collects on the walls of the larger passages, this lining membrane is paved with cells, from the summits of which rise up into the fluid covering them great numbers of very slender bodies, called cilia, which are endowed with the power of vibrating back and forth continuously, so that when they are looked at under the microscope they remind one of a field of grain waving in the wind. Their most powerful strokes are always upward, toward the mouth, and the result is that the mucous, with the dust which settles upon it, is swept upward into the windpipe to be coughed up. To facilitate coughing the mucous and dust up when it accumulates in excessive quantities, the rings of cartilage, whose function is to hold the air passages wide open, are made in segments joined by muscular fibers, which, by contracting, cause the air passage to close up on the accumulation of mucous, thus preventing the air from passing by it; so that when we cough the confined air forces the materials out, as the wad is driven from the boy's pop-gun.

How we may Interfere with the Supply of Oxygen to Our Bodies.—Since, as we have seen, in order to fully inflate the lungs the ribs must be elevated and the diaphragm depressed, it is evident that whatever will interfere with the free action of the diaphragm and of the muscles moving the ribs must interfere with the oxygen supply of the body. The ribs, inclining downward and forward as they do, cannot

be raised if they are not permitted to move outward at the same time, so that the clothes worn tightly about the chest must diminish the extent to which the chest may be enlarged in that direction, and at the same time increase the labor of the muscles in raising the ribs to the extent they may be permitted so to do. Then, again, since when the diaphragm contracts and forces the liver, stomach and other viscera toward the bottom of the abdominal cavity the walls of the abdomen must be moved outward, it is also evident that whatever interferes with this outward movement of the walls of the abdomen must both increase the labor of the diaphragm and tend to diminish the extent to which the lungs are filled with air. Tight clothing worn about either the chest or the abdomen increases the labor which must be performed by the muscles of respiration, and at the same time diminishes the amount of oxygen which is necessary for them to do their work.

Since the air which has come from the lungs has a portion of its oxygen taken from it, and has carbon dioxide, water and effete organic matter added to it, it is evident that such air is no longer suitable for breathing, and it is these facts which make the demands for the ventilation of dwellings, school houses, public halls and churches so imperative. Dr. Martin tells us that in order that a man may have fairly good ventilation, he should be supplied with 800 cubic feet of free space to begin with, and then have the air renewed at the rate of at least 1 cubic foot per minute.

EFFECTS OF STIMULANTS AND NARCOTICS UPON THE DIGESTIVE AND RESPIRATORY SYSTEMS.—While there seems to be a growing reliance upon those experiments which seem to indicate that when alcohol is taken in small quantities into the body it is not all eliminated in the form of alcohol, and must therefore contribute in some degree at least to the production of energy, it should be borne in mind that the evidence is not yet demonstrative; for there is an acknowledged tendency to retain within the body, or an inability to expel completely from it, all alcohol even after two or more days of abstinence; so it is held that the observed shortage in the experiments in question may be due to this cause, and not to a real digestion and consumption of the alcohol as food. But, however the case may ultimately be settled, there is a general agreement that alcoholic beverages, in whatever form, for people in health, are both relatively expensive and very dangerous articles of consumption. Not only does the most trustworthy evidence we could

wish indicate that alcoholic beverages are unnecessary articles of consumption in health, but physicians maintain that both alcoholic dyspepsia and alcoholic consumption are frequently induced by the use of these beverages; and not only this but the readiness with which the food may dialyze into the blood through the walls of the alimentary canal and through the lungs is diminished by the tendency alcohol has to harden animal tissue; so that even where health is not seriouly impaired the possibilities for doing work of whatever kind are actually diminished. Not only this, but Dr. Richardson tells us that when a man dies in a fit of drunkenness he is literally drowned, owing to the fact that the fluids are excreted in the lungs faster than they can be evaporated or the cilia remove them, and thus the air passages become clogged and respiration impossible.

The liver, as we have seen, is situated where all the blood from the alimentary canal below the œsophagus must pass through it on its way to the heart, and, in consequence of this, alcohol reaches the liver undiluted except by the fluids of the stomach and of the veins which carry it; it should not seem strange, therefore, if this organ should be frequently and seriously affected by the use of alcoholic beverages. At first there is an excessive development of the connective tissue of the liver, with a final destruction of the liver cells proper, which, as we have learned, have two important offices to perform, that of changing the sugars into animal starch, to be doled out gradually during the day as it is needed for the development of energy, and the secretion of bile which assists in emulsifying the fats, so that they may be gotten into the system. Finally the tissues shrink upon the blood vessels contained in the liver, and prevent the free flow of blood through it; so that the flow of fluids from the alimentary canal into the circulatory system beyond the liver is impeded and abdominal dropsy is the result. We can only realize how thoroughly crippled for work a man whose liver is approaching this condition is, when we remember that experiments upon dogs prove that when bile is not allowed to enter the alimentary canal during digestion the fats are largely passed from the body undigested, and yet, for the purposes of generating muscular energy and heat, the fats are by far the most valuable constituents of our food. Add now to this loss of food the sugar, which the kidneys are forced to eliminate from the blood when the liver is unable to store it up in the form of animal starch, and we see that, owing to the defective action of the liver in these two

directions, the two main energy producing constituents of digested food are lost.

In regard to the effects of tobacco upon these two systems there is to be said, in the first place, that it is nowhere claimed to be food in any sense of that term, nor does there appear any reasonable ground for holding that its use meets any innate demand of the healthy body; and there must be coupled with these statements the detestable fact that an amount of terrible filth, unparalleled by any other usage, barbarous or civilized, produced by the oblivious selfishness of the minority, must be lived in, breathed, waded through and mopped up by the majority. The excessive demands made upon the salivary glands by the use of tobacco, if they do not interfere with digestion, certainly call for the consumption of an amount of food and the development of an amount of energy, which a civilized race might reasonably expect to find diverted into more remunerative channels. Naturally there is created by this excessive loss of fluids from the body an unnatural thirst, which must be satisfied. Whether tobacco is smoked, chewed or snuffed, a greater or less amount of the extractive materials find their way into the alimentary canal and from thence into the blood, from which they must of course be eliminated; and accordingly the work imposed upon the lungs is increased as every one knows. The irritation produced by these products begins in the mouth, producing modifications of the gums, and, in extreme cases, "smoker's sore throat." In the alimentary canal excessive use leads to an enfeebling or partial paralysis of its muscular walls, upon whose healthy vigorous action strong digestive powers so much depend. In case there be any predisposing cause to lung diseases these irritants, and the rendering of the air which must be breathed impure, tend to incite or hurry on those difficulties.

PURIFYING OR EXPORTING SYSTEMS.

We have studied those organs of the body whose functions are to develop and direct the expenditure of energy, and those which import into the body the materials which are necessary to the production and direction of that energy. We have seen that the materials imported are not annihilated but only transformed into other kinds of substances, and then removed from the body. We have yet to study, therefore, the purifying or exporting systems.

STUDY OF THE PURIFYING OR EXCRETORY SYSTEMS.—OBJECTS OF

THE LESSON.—To teach that: 1. Waste materials are eliminated from the body through (a) the lungs, (b) skin, (c) kidneys, (d) liver, and (e) large intestines. 2. The lungs remove from the body (a) carbon dioxide, (b) water, (c) effete organic matter, (d) ammonia, (e) various volatile substances such as alcohol, garlic, etc. 3. The liver removes from the body —according to Flint—a waste product called cholesterine. 4. The large intestines remove from the blood several waste substances. 5. The skin removes from the body (a) water, (b) saline substances, (c) urea, (d) carbon dioxide, (e) various volatile substances such as alcohol, garlic, etc. 6. The kidneys remove from the body (a) water, (b) urea, (c) saline materials, (d) carbon dioxide.

In all great cities the problem of properly removing waste materials from them, in order that diseases may not result therefrom, is a very serious one and the removal of waste materials from our bodies as fast as they are produced is of course just as important to health as is the supply of food to the body, for otherwise the body would become clogged and unable to work. In regard to the lungs, liver and large intestines as purifying organs nothing further need be said here than to mention them in connection with the others. The cholesterine which the liver excretes is a compound containing nitrogen and hence here is one of the channels by which the nitrogen of worn out tissues is removed from the body.

F. H. King.

RIVER FALLS, WIS.

IN THE LIBRARY.—SCHOOL INSPECTION.—VIII.

53. *Inspection of a History Lesson. Importance of Home Work.*—On the re-assembling of the school at two o'clock, the inspector proceeds to hear the history lesson of the assistant-master (see § 20). This lessson will probably be designed to last from forty-five to sixty minutes. But it will be sufficient if the inspector gives about thirty minutes to it. I have already, in considering the inspection of the geography lesson (see § 47), spoken of the importance of making the children prepare such lessons beforehand. Some teachers, not only in elementary schools, but also, I am sorry to say, in training colleges, give their hisory lessons as mere lectures, without requiring any preparation for them on the part of their hearers. This is a great mistake.

A history lesson should be largely catechetical. The class should be required to prepare beforehand a certain postion of an ordinary text-book. Then the teacher, having himself carefully read this portion of the book, and having also read in other books, and gone to any other available sources which will throw light upon that portion, and having made careful notes of such researches for the purpose of his lesson, will begin his lesson by questioning the class on what they ought to have prepared. Far from contenting himself with delivering to children, who have given no previous thought or trouble to the matter, a mere cut-and-dried narrative, such as may be found better given in any ordinary school history, he will use every means in his power to draw this ordinary narrative out of the children. By a rapid fire of questions distributed throughout the class, and passed down to be answered; by making the children take places as they answer successfully, and so creating a keen emulation among all the better members of the class; by marking the successful answerers on the results of those places, or on some other method, so that the school prizes and rewards may depend in a measure on the pains they have taken with such lessons during the school term; by encouraging every genuine effort to improve on the part of the backward members of his class, or those whose home circumstances are unfavourable to preparation of home lessons; by praising diligence, and, if neccessary, punishing idleness and confirmed indifference, he will endeavour *to make the children work and think for the lesson beforehand as much as possible.* It is impossible to overrate the importance of this effort on the teacher's part to make his class prepare for him out of school. And if I have dwelt somewhat persistently upon this matter, it is because, while I feel how improtant it is, as one of the best means of making the elementary school a really civilizing institution, I fear that it is much more common to neglect this rule of having lessons prepared at home, than it ought to be. A very great responsibility rests upon inspectors and managers of schools in this generation. It is in their power to secure, at all events in the case of a vast number of elementary schools throughout the country, that the habit of study shall be introduced into the homes of the labouring class, by insisting on this method of teaching subjects, such as history and geography, which are suitable for such home study. If the inspectors insist, at their annual inspection, and at their visits without notice, that subjects which can be, shall be taught in this manner in the schools of

their districts, and if School Boards and managers of voluntary schools support the inspectors in this matter, the practice will soon become general.

54. *The Text-book to be learnt by the Children, and amplified by the Teacher.*—As he passes catechetically through the portion of history which his class has prepared from the text-book, the teacher will lose no opportunity of correcting and amplifying the brief narrative of the text-book, and of bringing out from his stores new details and things of interest, which shall breathe a life and reality into the subject. Most class text-books treat of little but wars and insurrections, battles and sieges, and brief characters of kings and queens. *The teacher will introduce to the children's notice, while questioning them on what they find in their text-book, things which they do not find there;* the lives, characters and works of persons less conspicuous than kings and queens; the inventions, the arts, and the literature of the period; the social condition of various classes, and many other matters which may tend to make the children think, and may destroy ignorant prejudices. He will dwell particularly on any period of the history, or any events, in which the men of the county or town in which the school is situated have played a prominent part, or in which the town, village, or neighbourhood of the school was the scene of action; and will encourage the children, as far as possible, to notice carefully the topography of any country in which they may find themselves living or travelling, and to try and associate its features with events which have happened there. But will it not be till he has questioned the children thoroughly on the text which they have prepared that he will give them anything like a lecture or a connected narrative.

55. *Dates must be learnt by the Children.*—Besides requiring the children to read over, and, as far as possible, to prepare for him the period of history on which the lessson is to be, *the teacher will insist on their learning the leading dates.* I am aware that many teachers pooh-pooh dates, and maintain that it is a waste of time to make children learn them; but I cannot agree with this view. The doctrine that dates need not be learnt is a consequence of the reaction against the old-fashioned method of teaching history, which used to be pursued in many schools and families, by making the children learn little else than dates. This method, of course, was unsatisfactory enough; but the contrary method of not requiring the children to learn any dates at all is quite as unsat-

is actory. *Dates are to the study of history what the multiplication-table is to arithmetic.* They are an essential frame-work on which to build up, and keep sustained, all the scholar's historical learning, without which much of what he reads and hears will always be unmeaning and unfruitful. And dates, like the multiplication-table, should be acquired in childhood, while the memory is still vigorous and retentive. Some system of *memoria technica* for dates, metrical or otherwise, should be used in every school in which history is taught, and should be frequently recited in the upper part of the school just in the same way in which the multiplication-table is recited in the lower classes.

56. *Summary of Points in a History Lesson.*—Bearing in mind, then, these general principles as applicable to the teaching of history in elementary schools, the inspector, in proceeding to hear the history lesson of the assistant-master (see § 20), will consider, in addition, of course, to those points upon which I have already dwelt in speaking of the lessons given by the pupil-teachers (see § 21), so far as such points are applicable to the case of a history lesson, such points as the following, viz.:—

First, whether the lesson is catechetical, or merely a lecture.

Secondly, whether any and what system is adopted for making the children well versed in dates.

Thirdly, whether the children appear to have prepared well for the lesson, and whether the results of such preparation are well drawn out from them by the teacher; and,

Fourthly, whether the teacher has carefully prepared the lesson, and shown resource in such preparation.

And if the assistant-master was not a pupil teacher in this school, but passed his apprenticeship in some other school, the inspector will note carefully any differences which may be observable in his manner of teaching, and make them a matter of favourable or unfavourable comment to the principal teacher when speaking privately to him at the close of the day's work.

57. *Close of the Inspection.*—The inspector has now, at half-past two, gone through all the inspection of the school properly so-called. He has heard and criticized the teaching of the whole of the staff of teachers, except the principal teacher; he has noted the discipline and order of the school, and, by his observations, combined with a study of the log-book, he has made himself acquainted with the whole system pur-

sued in the school. He has taken careful notes, which he can amplify as soon as he has leisure, and which he can compare with his notes of last year, and with those of other schools. By making a programme of proceedings in his own mind he has got through the maximum of work with the minimum waste of time, and, so far as the business of inspection is concerned, he is now in a position to report to the Education Departmeent, and to discuss the school with the staff. The only part of the work of inspection as distinguished from examination, which he has not done, is the conference with the teachers. There remains, therefore, now, the examination of the scholars to be effected; and, on the hypothesis with which I started—that, while he is engaged in inspecting the boys' school, his assistant is examining the girls' school in the elementary subjects, and that he will have the next day to give to inspection of the girls' school, while his assistant is engaged in examining the boys' school in elementary subjects—he proceeds next, after hearing the lessons of the teachers, to examine the school in geography, grammar, and history (see Appendix I.), and to conduct so much of the examination of the scholars in the upper part of the school in the higher subjects (see Appendix II.) as there is time for.

58. *Examination of the School in higher subjects: Advantage of conducting it Orally.*—An inspector who is thoroughly conversant with these subjects (Appendix II.) will generally avoid written examinations, and will examine in them orally as much as possible; because he can cover much more ground in a much shorter space of time by means of an oral than of a written examination; because he can, in an oral examination; have the advantage of making the teachers take a part in it; and also because he can, by means of an oral examination, set the teachers an example of the right course to be pursued in handling a subject. But then, in order to make such an oral examination really valuable and effective, the inspector should not only possess in himself the qualifications for handling a class which he expects to find in the teachers, and be in fact himself a good practical teacher, but he should also be thoroughly conversant with the subjects in which he is to examine. It is by no means sufficient that he should have such a general knowledge of modern geography, English grammar, and English history as is ordinarily possessed by an educated English gentleman. He should have gone more thoroughly into the matter than this. He should not only have read and thought over these

subjects for the special purpose of examining children in them, but he should be *well acquainted with the text-books used teachers and by scholars.* It is a rule of examination, though often, unfortunately, neglected by examiners, that the examiner should have read the editions which have been used as text-books by the examinee. And the lower the literary status of the examinee, and the more elementary his knowledge, the more important is it that this rule should be observed. It does not, of course, follow that, because he knows elementary school text-books, the inspector should confine his questions strictly within their range, or be guided in his examination by their method. On the contrary, if he does so, he will sacrifice part of his usefulness as an inspector. But he should know what their range is, and be able, if necessary, to keep within it, in order that he may fully understand what it is reasonable to expect of the scholars, and what should be their range of knowledge if they have been fairly diligent, and may thus be able to estimate the precise value of the results which he obtains in his examination.

Any inspector who is, by such knowledge of the subjects as this, and by his other qualifications, a good examiner, will do as much of his examination as he can orally, and will resort to written examinations only under special circumstances. *He will call upon the teachers to assist him in such oral examinations*, selecting, for this purpose, those of the teachers about whom he has found in the course of his inspection that he requires to know more. And in the case of the large school which I have been supposing (see § 20), he will be very particular to entrust some part of the oral examination to the principal teacher, one of whose main duties in the school ought to be the reviewing of all the classes, and so ascertaining by examination how they are progressing. By requiring the principal teacher to conduct part of the examination in his presence, the inspector will often be able to discover the true cause of a fault in the method of instruction pursued in the school, and to speak about it to the principal teacher at the close of the day's inspection with much more effect than he otherwise could. And if the inspector is a really good examiner, the principal teacher will, if he knows that he will be required to take part with him in the examination, endeavour, in preparation for that ordeal, to work himself, his staff, and his scholars, up to the requisite standard. *Good teachsrs will always be found anxious enough to take part in an oral examination of their scholars.*

The inspector, when conducting an oral examination in any of these snbjects will have it in his power to do much to enforce, by the line he takes in his examination, a proper method of teaching them in the school. In fact, if his advice and exhortations to the teachers are to have their full and proper effect, it is absolutely necessary that he should be able to drive them home by means of his examinations. Take, for example, the case of English grammar. If the inspector, when examining, say, the third standard, in the noun, verb, and adjective as required by the 18th article of the New Code (see Appendix I.), conducts his examination on the basis of the analysis of a simple sentence, and on the supposition that the children will have been taught in some such way as that I have described (see § 29), the teachers will be almost forced to abandon their defective methods of teaching, and at least to make an attempt to follow out the plan which the inspector considers the best. And so through all the subjects—one of the great advantages of oral examination in experienced and skilful hands is that it serves to indicate to the whole shool, in a public and unmistakable manner, the points to which, in the inspector's judgment, their attention should be called in respect of their teaching of those subjects, and illustrates to them the advantage of the principles which the inspector desires to enforce.

59. *Conference with the Teachers.*—I have now arrived, in my description of the inspection of a boys' school, at the close of the day's work, when the scholars are dismissed and the inspector is left alone with the teachers. And now follows what, if the inspector is to be anything more than a mere detective of faults, I must regard as one of the most important parts of his duty, viz.—the duty of calling the whole staff of the school before him, and speaking to them respecting the impressions which he has formed of the condition of the school, and of their work in it. It is in my judgment impossible to overrate the importance of this interview between the inspector and the school staff. The praise which an inspector is then able to bestow, and the blame which he feels it necessary to give, will have more effect than the communications which are made to the managers from Whitehall. It is impossible for the inspector to embody all the remarks he would wish to make on a school in his report to the Department; and, if he could do so, it would be impossible for the Department to transmit them to the managers. Besides, observations made orally, on the spot, while all the events of the inspection

are fresh in the minds of all the actors, and made immediately to the teachers by the inspector, come home to the teachers' minds much more strongly than the summary sent down by the Department can do. The inspector who feels the importance of this part of his duty will make a point of not hurrying over it. And now that inspectors are able to pay visits to schools without notice, there is no reason why it ever should be hurried over. If the inspector is pressed for time, he can easily find half-an-hour for this duty on another day. And, indeed, there will be some advantage in his coming back to the school for this business on a later day, as he then will have looked over the papers which have been worked for him by the older scholars, and can therefore speak to the teachers on the results of the examination, as well as of the inspection.

60. *Inquiry into Instruction of Pupil-Teachers.*—The inspector will make a point of bringing with him the papers which have been worked by the pupil-teachers at the collective examination, already looked over and marked. He will read from them any answers or parts of answers which he has noticed as particularly good or bad; the good for the encouragement of the diligent, and as an example of the most practical kind to the rest of the staff; the bad for the purpose of making the idle feel ashamed of their idleness or carelessness. He will show the papers to the principal teacher, and will comment on them; *pointing out how such questions ought to be answered, and suggesting ways of doing better in future.* I have know pupil-teachers who were made to bestir themselves and take pains with their studies by the fear of having to pass through this ordeal, on whom all other means of threatening and exhortation had failed; and who, but for this resource, would probably have had to be dimissed from the service. The inspector will inquire into the time given to the instruction of the pupil-teachers, and the place and other circumstances of such instruction; and generally, will investigate anything in respect of which the papers suggest to him that improvement is required.

61. *Consideration and Discussion of their Faults in Teaching.*—When he has done with the papers of the pupil-teachers he will speak to them about their teaching; ask them to explain anything in respect of which there has not been time for inquiring during the inspection; *point out to them what mistakes they make; and, above all, tell them what his experience suggests as the best way of doing anything which he thinks they do amiss.* All such points as those which I have gone through in

describing the different parts of the process of inspection will have been noted by him in his note-boook, and can be made the subject of most useful hints to the teachers.

62. *Consideration of the Condition of the School with the Principal Teacher.*—Lastly, when he has finished with the pupil-teachers, the inspector will see the principal teacher alone, or in the presence of managers only; *will tell him plainly what defects and what merits he finds in the school;* will say how much of such defects he considers to be due to neglect or other fault on his part; and will ask him to offer any explanation or excuse he has to make in palliation of anything that has been found seriously amiss. He will encourage him to state his special difficulties, if he has any, and to ask advice, if there is any matter in respect of which he is puzzled or uninformed. An inspector who will take pains to do this part of his work with earnestness, and yet with genial good temper and impartiality, may form as high a standard, and be as severe in his requirements, as he pleases. No matter how high his requirements or how severe his standard, he will be regarded with respectful affection by the teachers in his district; and will be able to feel, when he leaves it, that he has not wholly missed his opportunity of doing some good work for his country.—*Finished.*

OFFICIAL DEPARTMENT.

SEMI-ANNUAL MEETING OF THE WISCONSIN TEACHERS' ASSOCIATION.

TUESDAY, DECEMBER 27, 1887, 7 P. M.

The semi-annual meeting of the Wisconsin State Teachers' Association opened in the Senate Chamber Tuesday evening. Meeting was called to order by President Salisbury, of Whitewater. The president introduced Mr. H. E. Holt, supervisor of music in the public schools of Boston, who spoke upon the "Value of Music as an Educational Factor."

Imitation, said Mr. Holt, is not education. He gave instances of good results from imitation processes in the training of public children. But with ordinary, intelligent children something more than imitation processes is needed. Expression is the unconscious voicing of musical thoughts. The philosophy of the voice mechanism is not necessary. The true elements of musical instruction have not been understood. Music must be taught as other subjects are. Mathematics cannot be properly taught by definitions and answers

—a kind of imitation. Music has been taught on this system. Boston has $45,000 invested in pianos used in an imported imitation process of teaching music. Such teaching has been uneducational. Music must be taught from principles. There is but one true educational science that underlies all teaching. This is applied psychology.

Languages are taught by principles. Music is a universal language. Music is a science. As often taught it is a puzzle. Laws of the mind are involved in the teaching of music. The teaching of music by regular teachers can be made as successful as the teaching of other regular studies. The study of the signs in music is not the proper study of music itself. Mental action comes from the use of the senses, but we must have something more than the sensations. Music is something more than a succession of sounds. It must represent mental action. There can be mind training in musical thought. Development follows natural laws in education, as well as in the external world. The cultivation of sense precepts may lead to the most valuable results. Singing by rote is of little value. The first year of school life is the most important for training in musical principles. An object of thought must be presented to the mind both in time and tune. The lecturer explained in detail his system of teaching. He contended that the proper teaching of music will help in the proper teaching of all other subjects. After the address, Mr. Holt submitted to a catechism upon his methods that elicited much additional information.

WEDNESDAY AFTERNOON,

Minutes of the previous meeting were read and the presentation of letters from Chas. H. Ham, of Chicago, Mayor Emil Walber, of Milwaukee, and Prof. W. S. Johnson, of Milwaukee, acknowledging the receipt of resolutions adopted at the summer meeting making them honorary members of the association.

The report of the finance committee was presented by the chairman, Principal W. J. Brier, of Baraboo, and adopted.

President Salisbury appointed the following committee on resolutions: President J. J. Mapel, of Milwaukee, Prof. Lucius Heritage, of Madison, and Principal Geo. W. Reigle, of Tomah.

The railway clerk, President W. D. Parker, of River Falls, made some routine announcements respecting reduced rates, and asked that, after his twenty-five years of service, he be relieved from further work as railway agent of the association.

In the informal discussion which followed, it was developed that considerable annoyance was experienced in different parts of the State in securing from local agents the certificates necessary in order to entitle members to tickets for the return trip at reduced rates.

The report of the committee on elimination of unprofitable work from the curriculum of common schools was presented by Principal A. R. Sprague, of Racine.

Discussed by Prof. S. Y. Gillan, of Milwaukee, Principal C. W. Cabeen, of

Neenah, Hon. W. H. Chandler, of Madison, Principal W. J. Desmond, of Milwaukee, President G. S. Albee, of Oshkosh, and Prof. R. C. Spencer, of Milwaukee.

Principal C. F. Viebahn, of Watertown, argued in favor of the retention of German on the ground that its banishment would greatly reduce the attendance at the public schools.

Principal Sprague criticised Mr. Gillan's discussion as inconsistent in its treatment of and history geography, favoring extreme elimination in the latter and comparatively little in the former.

Prof. A. O. Wright, of Madison, sustained Mr. Viebahn in endorsing the present law, which permits the use of an hour a day in giving instruction in some foreign language. In his opinion, the German is demanded in many communities where English is not used, and the schools would otherwise be deaf and dumb schools for the children. Moreover, the retention of the German is desirable to conciliate the "foreign" element to the public school system.

Principal C. H. Keyes, of Janesville, criticised this view, and Principal Albert Hardy, of La Crosse, deprecated the association taking any part in a discussion which was likely to create race animosity.

After a short recess, there followed an informal discussion of the disposition of Mr. Sprague's report, which was participated in by Mr. Chandler, President Parker, Prof. Spencer, Principal E. E. Beckwith, of Oconomowoc, Prof. L. D. Harvey, of Oshkosh, and Mr. Sprague; and on motion or Mr. Chandler, the subject was postponed to the next summer meeting for farther discussion.

The report on Wisconsin educational exhibit at Chicago, was presented by the chairman, Dr. J. W. Stearns, of Madison.

The morning session closed with a paper by Prof. A. T. Smith, of Beloit, on the "Character of mathematical instruction in our common and secondary schools.

WEDNESDAY AFTERNOON.

An address was delivered by State Superintendent J. B. Thayer, on "Some lines of progress in our educational work." Mr. Thayer began with a general review of our educational system and then proceeded to speak particularly of the University. In his opinion, a system of admission with conditions is dangerous and the existence of "side or back doors" likely to very seriously lower the standard of the University. The system of accredited high schools should be very carefully guarded. Many of the high schools of the State are as yet immature, scarcely rising above the grammar school grade, and even in other cases it may often be true that a student may have such attainments as to justify his graduation from the high school while not properly prepared to enter one of the University courses. Similar statements may be made respecting our Normal school system. A preparatory department, or the introduction of preparatory work into the Normal course beyond a brief review of element-

ary branches, will seriously interfere with realizing the purposes for which they are designed. It might be well to put into force the spirit, if not the letter, of a rule of the Board of Regents which provides for the admission of six candidates from each assembly district, by instituting some system of competitive examinations for admission. This would serve to raise the standard of attainments for entrance to the Normal and do away with the present troublesome system of entrance examinations. The Teachers' Institute has a function different from any other educational agency, and it should not be confused with them. It should not be a traveling High or Normal school. A large part of its work should be in the line of giving a fresh impulse and additional enthusiasm to the teacher, and awakening among the people that interest in educational matters which must underlie the successful operation of our school system. There is a demand in some quarters that the institute should take on more of the popular character of the Farmer's Institute. Such a transformation would involve serious obstacles which should be well weighed before the change is attempted.

Prin. A. R. Sprague, of Racine, suggested that it would promote the establishment of proper relations between the high schools and the University, if the former were to be visited occasionally by the members of the University faculty.

In response to the call of Mr. Chandler, Pres. T. C. Chamberlin, of Madison, presented some thoughts on the University problem. He recognized the propriety of the high schools pursuing many collateral branches which are not needed as a preparation for a college training; but it is very desirable, in his opinion, that there should be a central thought which will lead on to the more advanced culture. It may be profitable for the high school pupil to take some studies like political economy, which are not directly in the line of preparation for the earlier work of the University. This previous examination of these studies, if fairly well done, may be a valuable preliminary to their fuller examination in the advanced years of the college curriculum. In Mr. Chamberlin's opinion, the existing system of accredited high schools, with all its dangers, is justified by experience. It is, he said, the desire of the University authorities to have the high school principal exercise his discretion in recommending such of his graduates as he thinks eligible for admission to the University. It is not to be the policy of the University to accept the standings of under-graduates from high schools in place of examinations.

Prin. J. Q. Emery, of Fort Atkinson, was called out and endorsed the idea that some of the graduating class of a high school whom it may be entirely proper to admit to finish the course of the local school may nevertheless not be of such a character as to profitably pursue a University course.

Prof. R. C. Spencer, of Milwaukee, advocated some co-operation between our school system and Farmer's Institutes, for the sake of bringing the different elements of the community into fuller sympathy.

Prin. W. H. Beach, of Madison, thought that the policy of the University had sometimes interfered with the best work being done by the high school. It is

not desirable, in his opinion, to have a pupil of the high school always looking forward to a University course or looking too soon.

"The Institute Problem" was discussed by Prof. Maxson, of Whitewater, and Hon. W. H. Chandler, of Madison. Mr. Chandler insisted that a very important factor in the institute work is the county superintendent, who is required by law to hold, at least, one institute a year for the instruction of his teachers. The present system is the result of blending this sort of institute with that provided for under Normal school auspices.

EVENING SESSION.

At the evening session the subject of Grading the Country Schools was discussed in a series of papers.

Miss Betsey M. Clapp, of St. Croix county, presented the Experience of One County Superintendent. She gave a history of the movement in her county, beginning with a course of study arranged in four forms, which she prepared and distributed among her teachers previously to the issuance of State Superintendent Whitford's pamphlet on this subject. On the whole, her account, while not rose-colored, still bore testimony to substantial progress having been made.

The discussion was continued by Prof. L. D. Harvey, of Oshkosh, in a paper entitled, Course of Study in Common Schools. Mr. Harvey, before preparing his paper, sent to all the county superintendents of the State letters of inquiry as to what had been done with the course in their respective localities. He had received answers from nearly all of them, and from these drew the conclusion that at no time since the movement was inaugurated had there existed a more general and intelligent appreciation of the value of the course. It seemed clear that it was exerting a very widespread influence upon teachers and pupils in securing more systematic work, although the formalities and machinery connected with it had not been very generally introduced.

The discussion of the topic was suspended to secure an expression of preference from the members of the Association as to whether the next meeting should be held at Madison or some other place in the northern part of the State. Prof. Parker moved that Eau Claire be selected, which motion prevailed.

Hon. W. H. Chandler, on behalf of the members of the Association, made a very graceful and delicate address to President W. D. Parker, on the occasion of his retirement from the position of railway clerk, and accompanying it with the presentation of a gold-headed cane and mantel clock, which he was asked to accept as a token of their gratitude and affection. Mr. Parker requested President Albee to respond in his behalf, and the latter complied in a few well-chosen words.

The discussion of Grading the Country Schools was then resumed with a paper by John Trainer, of Decatur, Ill., on Grading Rural Schools in Illinois. He gave an interesting and instructive account of the work done in that direction in his State.

At the close of the paper, further facts were elicited by questions from Mr.

Chandler, President G. S. Albee, Principal A. R. Sprague, Dr. J. W. Stearns, Prof. L. D. Harvey, Principal W. J. Brier and others.

THURSDAY MORNING.

The session of the Association was resumed this morning in the Senate Chamber.

On motion of President G. S. Albee, Principal E. R. Smith, of Manitowoc, was elected railway clerk in the place of President W. D. Parker, resigned.

State Superintendent Thayer, chairman of the committee appointed at the summer meeting to secure a room in the capitol for a permanent school exhibit, made an oral report to the effect that the changes which had been going on in the building during the past year had rendered it impracticable to take any steps in the direction desired. He also suggested that there would be a better chance of ultimate success if the room were requested for the use of the Association, rather than simply for the reception of material, and that it would also be necessary to make some provision for the care of the room.

The committee was continued with instructions to proceed in conformity with Superintendent Thayer's suggestions, the president and secretary of the Association being added to the committee.

Superintendent Thayer was elected delegate of the Association to the meeting of the National Educational Association, to be held in San Francisco next July.

Principal Keyes, chairman of the committee on the Wisconsin Summer School of Science, made an oral report, giving some account of the work of the committee and the needs of the movement for the future. The subject was continued in a paper by Principal A. W. Smith, of Wauwatosa, on the question, "What Can It Do for the High Schools?" Mr. Smith spoke in very high terms of its past work and its possibilities of future service.

Prof. E. A. Birge, of Madison, followed on the subject, "Its Future Outlook." He related some of his experiences as instructor in the school last summer. He thought that the members came with the expectation of getting two things and got three. They expected facts and methods, and received in addition inspiration for their work. All of these should be kept in view in the future management of the school. To secure the most satisfactory results the best instructors should be obtained and compensated sufficiently to command their entire time during the session. In order to do this a considerable sum of money will be required. The school may be conducted for a year or two on a largely gratuitous basis, but it cannot be thus made a permanent success. The funds should be sufficient to enable the managers to go outside of the State and secure competent instructors wherever they can be found. It is very desirable to put the enterprise at once on a business foundation.

Col. John G. McMynn, of Madison, was requested to address the Association before adjournment.

The discussion of the summer school question was then resumed, and Presi-

dent W. D. Parker, of River Falls, moved that the committee be continued with instructions to further the enterprise by all available means.

Hon. W. H. Chandler made a statement respecting the "business complications" connected with the session of the summer school, last June. He cautioned the Association that it was necessary at the outset to find legal authority for appropriations in aid of the movement, and it was desirable to keep these facts in view, in planning for the future. He favored the motion and hoped to see the school a growing success.

The motion then prevailed.

State Superintendent Thayer, whose name had been substituted by the committee in place of Prof. King, originally appointed by the Association, asked to be excused from the service on account of his official connection with the board of regents, to which the appeal was to be made for financial assistance. The motion was reconsidered and the report was accepted, and a committee of five, of which Mr. Keyes was to be chairman, was ordered to be appointed for the ensuing year. The following is the committee:

C. H. Keyes, chairman, of Janesville.

W. H. Chandler, of Madison.

W. H. Beach, of Madison.

J. E. Hoyt, of Lodi.

J. W. Stump, of Whitewater.

Prof. Birge thought it desirable to limit, hereafter, the range of work permissible to a student in the summer school at any one time.

Dr. J. W. Stearns, chairman of the committee on legal school age, reported the inability of the committee to come to an agreement, and a request that the committee be continued, to report at the next meeting of the Association.

Mr. Chandler thought it unprofitable to continue the discussion of the question as an Association. No change could be affected without an amendment to the State constitution, and he did not believe that any great harm was being done by a few children attending school under five years of age. He moved that the committee be excused from further consideration of the subject.

Principals Albert Hardy, of La Crosse, and M. S. Frawley, of Eau Claire, indorsed the opinion of Mr. Chandler.

President J. J. Mapel and Prof. R. C. Spencer explained the views of the committee as to the desirableness of a thorough investigation of the subject.

Dr. Stearns said that the report of the State Superintendent showed the attendance of about four hundred children under four years of age, and suggested that it would be very instructive and valuable, if practicable, for the State Superintendent to ascertain the number of children between four and six attending the public schools.

Mr. Chandler withdrew his motion, and on motion of Principal Keyes, the committee was continued.

On motion of Prof. R. C. Spencer, a resolution was adopted sending fraternal greetings to the Farmers' Institutes throughout the State.

Superintendent W. H. Morrison was invited to address the Association, and responded with a brief reference to the work of the Farmers' Institutes.

Col. John G. McMynn was then introduced and gave some very interesting reminiscences of the early history of the Association. He had little faith in a course of study for the common schools. He believed in courses of study, but not *a* course. A course should have elasticity, so as to be adaptable to the different needs of different communities. There is great danger of teachers coming to worship method and system, to the sacrifice of a wholesome freedom. Col. McMynn thought it desirable to leave out from the high school course studies like political economy, which belong to the University course, for those students that are to enter the latter.

Prof. L. W. Briggs, of Oshkosh, presented the report of the committee on honorary membership, recommending that the following gentlemen be made honorary members of the Association: Superintendent H. E. Holt, of Boston, Mass.; Mr. John E. Trainer, of Decatur, Ill.; Mr. A. A. Miller, of Fargo, Dak., and Col. John G. McMynn, of Madison. The report was adopted.

The customary resolutions of thanks were passed, and the Association adjourned.

EDITORIAL.

MEN and methods necessarily have "the defects of their qualities." Their excellences, unless perfect balance is attained, tend to excess which is weakness, or else involve neglect of some other important matter. To recognize these defects of our qualities is to be guarded against them: and to point them out is not fault-finding but helpful criticism. Now three serious defects seem to us allied in this dangerous way to the excellent modern methods of teaching. They are not every where present, nor are they necessary results of current views and practices, but they are natural results and are not uncommon. In the first place, the modern teacher seeks to adapt the work closely in matter and method to the nature of the pupil; but the defect of adaption is manifestly weakness. We may adapt too closely. John Stuart Mill says, "The pupil of whom nothing is required which he cannot do never does all that he can." Strength is obtainable by exertion, by attempting difficulties. This false tone of weakness in our primary work has begun to be generally apparent. We are babying the children. We have over-elaborated their work in number, in language and in reading, and adapted it so delicately that there is nothing tonic in it. As a matter of fact it is always better to work a little above the pupils' capacity than a little below it—provided we do not press this to the point of producing discouragement. Adaptation is admirable,—but its defect is weakness, and against weak work, amiable trifling, the modern teacher needs to guard. Another excellent purpose is to make work pleasant and attractive. We certainly would not have

this abandoned, although we do think it necessary for pupils to learn to do that which is not agreeable. Self-indulgence is evidently the defect which our amiable purpose is liable to beget. The old discipline did not tend to this. Here was the task—it was called by no alluring name; it was a duty, and duty need not be attractive; the fruits of neglect were, however, very bitter. The discipline produced earnest, self-denying, devoted men. In the effort to make work pleasant and to avoid harshness there is need to guard against the growth of an easy-going, self-indulgent spirit. If we abandon the plan of overcoming this by a stern and hard discipline there is certainly all the more call for an intelligent culture of a spirit of self-denying and dutiful application. Again, in the reaction against definitions, verbal memorizing, and hard and fast forms of statement, there is constant danger that we shall leave most things in the mind loose and vague, and thus substitute a mental laxness for the narrow firmness of the old training. An exact and retentive memory is not a curse; it is one of the best results of wise training. To secure this it is not necessary to return to mere rote learning; but some learning by heart is wise and necessary. Even things not understood, when thus learned, may, as Mr. Mill tells us was the case with him, "serve as a nucleus for observations and reflections to crystalize upon" But laxness is manifestly the defect of our developing methods, laxness of memory and in general a low mental tension. We work to develop the understanding, and are mortified to find that our pupils understand and forget. There are then these three defects of our qualities—weakness, a self-indulgent spirit and laxness, against which we need to guard carefully.

An examination of the list of city superintendents in this state reveals three plans for filling this important office. The first may be called the metropolitan plan, since it is possible only in very large cities. In these a superintendent is employed to devote his whole time to the care of the schools. He may be, and usually is, an expert—one who has had much experience in the school room and also has studied with some care the problems of education. The conditions therefore favor the highest development of the superintendency, and the corresponding improvement of the schools. City superintendents in large cities have long ceased to be mere book-keepers for the school system, and are applying themselves to the practical work of supervision and the application of principles to the development of the schools. Not more than two cities in this state attempt to follow this plan. In some of the others a citizen pursuing some other occupation undertakes the superintendency of schools for the honor of it or for some small compensation. The list issued by the State Department of Public Instruction shows twenty-nine cities in which this plan prevails. It has some advantages. One not a member of the corps of instruction is made their inspector; and thus the system has an additional bond uniting it to the community. In some instances excellent service is rendered, being determined not by the compensation, but by the importance of the trust. The relation is, however, a difficult one. A man's business demands his time and energy, so that

he seldom has much left for public service. Sometimes his business interests stand in the way of his doing what he recognizes would be for the best good of the schools. He often he feels his unfitness for the post through lack of knowledge and practical experience of school work, and consents to "look after the business" of the schools, and have as little as possible to do with supervision. How can a man in such conditions become an educational expert? On the other hand, it is not uncommon to make the principal of the high school also city superintendent. A study of the list above referred to shows eleven cities in which this plan prevails. The imperfection of our reports or of our organization is shown by this. We have thus but forty-two cities which report any sort of supervision, while the list of free high schools in the State numbers upwards of one hundred and fifty. Of the remaining hundred some are under the supervision of the county superintendents, others have no supervision beyond that of the clerk of the school board; but in many more the principal of the high school acts in some sort as superintendent. Doubtless it is a great gain where this duty of supervision is distinctly assigned to him, instead of left undesignated and therefore unperformed except when emergencies compel some sort of action. This third plan has some difficulties. It must take a part of the principal's time, and thus limits his teaching. Even when time is allowed for this it must be at some specified hour, and thus limit his power of knowing the work of the other schools. But, on the other hand, it secures a teacher as supervisor; it gives authority to the natural head of the schools; and it puts the principal upon studying the school system and securing unity and harmony in all its parts, instead of leaving him to run the high school as an institution by itself. To make this plan more effective it is necesary that high school principals should more generally study school inspection as an art than they now do; should understand the work of all the departments, the tests of good work, how to assist and guide teachers; and so on. This, after all, is just now one of the great needs in the educational work of the State. Our supervision is not only inadequate, it is unorganized and uninstructed.

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DEPT OF EDUCATION

WHOEVER wishes to teach well must take care to keep his own mind alert and fresh. Good work in his business depends upon this. A tailor or a grocer may, without injury to his business, cut himself off from all sources of intellectual growth. His life will be narrow in consequence, and he will be a much less interesting person; but he may be able to do his work just as well notwithstanding. The case is very different with a teacher. He cannot do his work well with out some provision for his own intellectual quickening. He cannot, for example, develop many sidedness in his pupils of he leads a narrow, routine, unprogressive life himself. He must have some books, and some magazines, just as a carpenter must have some tools. One or two of the standard monthlies should find their way to his table. In these are entertainment for a weary mind, stimulus for one that lacks tone, new information to be added to the old store, fresh subjects to think about and to talk about,—all more attractive because

they come to hand each month just from the press, exhaling the very atmosphere of a curious, active, progressive and cultured age. Is it not certain that one will teach better for having found refreshment at such a source? Is it not false economy to cut yourself off from such resources? The case is like that of the mechanic who avoids purchasing an improved instrument and therefore goes on doing inferior work, and, of course, at inferior prices. Then, a new book must be purchased now and then. If well chosen this may enrich the life almost as much as a new sense. But it must be a vitalizing book. Teachers make a mistake by poring over text-books continually, as if the wisdom of the world were enshrined in these compendiums. Hardly anything is dryer and more profitless than they are. For the most part they contain no soul. It is the original books, books by great writers, that are really worth reading and re-reading. One such in a year is not a heavy expense even for a district school teacher, and having it and mastering it raises the life to a higher plane. Only rarely gifted minds can afford to live without making some provision for contact with fresh knowledge and fresh thought. Does he spend any thing for his own improvement? That is a fair test by which to separate the progressive teacher from the unprogressive.

THE last circular of the Bureau of education was prepared by Prof. Herbert B. Adams, of Johns Hopkins University, and is devoted to a historic sketch of The Study of History in American Colleges and Universities. It shows very clearly the narrow and feeble beginnings of the study in this country, and the very remarkable development which it has attained within a few years. This consists not merely in an increase of the time and teaching force devoted to this subject, and the consequent expansion of the course, but also in the evolution of new plans of teaching, more in accordance with scientific spirit of the times. These plans are known as the "Seminary method," which has attained considerable importance at the chief colleges. It is essentially the substitution of investigation for the memorizing and reciting so long exclusively followed. The seminary courses are usually elective. Some special subject is taken for the Seminary—as for example, the growth of the British Constitution. This is divided up into topics, and references are supplied to the best authorities accessible. The class is divided into small sections, each of which meets once a week for a session of two hours. At these sessions one of the members reads a carefully prepared essay on the topic for discussion, and the rest, under the guideance of the professor, examine the views presented, and contribute additional information and helps, such as they may have found in their preparation. Although this is carried on independently in the library, yet each one is to some extent under the direction of the professor. Where the students are mature enough and the materials for original research are at hand, as at Johns Hopkins University, research into original documents, travel to investigate local history and traditions, all the resorts of the writers of original histories are put in practice. Many of the papers prepared in the Seminary have been issued in the well-known series

of Johns Hopkins Historical Studies. Nor is the interest purely or chiefly antiquarian. The explanation of existing institutions is sought in a careful study of the steps in their growth, and the economical and sociological problems of the time are approached in the same way, of careful and thorough historical research. This is certainly a most interesting and promising development, and it is sure to have a most important bearing upon the progress not only of the learning and literature of the country, but upon the development of its institutions. Historical and sociological problems will more and more be treated by men trained to careful methods of research, and consequently will be more wisely and fruitfully treated. Maturity and thorough previous training are obviously necessary to study of this sort. At the close of the pamphlet is a brief account of a somewhat similar experiment in the Washington high school, where the age and attainments of the pupils made it possible to adopt such methods. The chief problem of the schools must be, however, how best to lay the foundation for this original research at the Universities?

MATHEMATICAL SECTION.

TEN PLUS ONE.

DEAR SIR: I notice in the Mathematical Section of the December JOURNAL, this question: If the sum of the odd digits of any number differs from the sum of the even digits by 0 or a multiple of 11, that number is divisible by 11. Why? If Prof. Pray succeeds in settling this question, so that it shall never appear again in the institute question-box, he will be held in grateful remembrance by all institute conductors.

The test of divisibility by 11 arises out of two facts: 1. Our notation is a decimal notation. 2. 11 is one more than 10. *11 is a divisor of 10 + 1.* From this, let us see what we can get by using the well-known principles: (a) A divisor of a number is a divisor of any multiple of that number. (b) A common divisor of two numbers is a divisor of their sum. (c) A common divisor of two numbers is a divisor of their difference.

1. By principle (a) 11 is a divisor of $10 + 1$, and of $20 + 2$, and $30 + 3$, and so on to $90 + 9$.

2. Carrying this series one step farther, 11 is a divisor of $100 + 10$. But 11 is a divisor of 11. Then, by principle (c), 11 is a divisor of $100 - 1$, and of $200 - 2$, and so on to $900 - 9$.

3. Carrying this work one step farther we get, 11 is a divisor of $1000 - 10$. But 11 is a divisor of 11; and by principle (b), 11 is a divisor of $1000 + 1$, and of $2000 + 2$, and so on to $9000 + 9$. We thus get a second series of results to be added to those already given in the first paragraph.

4. Carrying the last statement one step farther we get, 11 is a divisor of $10000 + 10$; but 11 is a divisor of 11, and by principle (c) 11 is a divisor of $10000 - 1$,

and of 20000 — 2, and so on, to 90000 — 9. We thus get a second series of results to be added to those already given in the second paragraph. We have now carried the investigation far enough to discover a law for numbers like those in the first paragraph, and another for numbers like those in the second paragraph. These laws may be stated thus:

1. Any number expressed by one significant figure and an *even* number of zeros, minus the number expressed by the significant figure, is divisible by 11.

2. Any number expressed by one significant figure and an *odd* number of zeros, plus the number expressed by the significant figure, is divisible by 11.

For example: Take the number 737. This equals 700 + 30 + 7.

By the first law above,	11 is a divisor of	700 — 7
By the second "	11 " "	30 + 3
	11 " "	7 — 7
By principle (b)	11 is a divisor of	737 — 11
But	11 " "	11
By principle (b)	11 is a divisor of	737

Take another number, 819291. This equals 800000 + 9000 + 90 + 10000 + 200 + 1.

By second law above,	11 is a divisor of	800000 + 8
" " "	11 " "	9000 + 9
" " "	11 " "	90 + 9
By first " "	11 " "	10000 — 1
" " "	11 " "	200 — 2
	11 " "	1 — 1
By principle (b)	11 is a divisor of	819291 + 22
But	11 " "	22
By principle (c)	11 is a divisor of	819291.

Yours, very truly,

A. J. HUTTON.

We are reminded by E. E. Beckwith of the algebraic proof of this proposition given in Olney's Science of Arithmetic, article 155. The substance of this proof is that the successive digits of any number represent so many successive powers of 10. But as $10 = 11 - 1$, it follows that $(10)^2 = (11 - 1)^2$, $(10)^3 = (11 - 1)^3$, etc. But these successive powers of $(11 - 1)$ contain 11 as a factor of every term but the last, which is + 1 in the even powers, and — 1 in the odd powers. Hence the digits in the *odd* places, denoting even powers of 10, represent multiples of 11, + as many units as the digits represent, while those in the even places represent multiples of 11, *minus* as many units as the digits represent. The whole number therefore consists of multiples of 11 plus the odd digits, minus the even digits. If the net result of the comparison of the odd and even digits is to increase or decrease the other part of the number which is a multiple of 11, by an exact multiple of 11, or by nothing, the result is a multiple of 11.

THE ALGEBRAIC PROBLEM.

The following very acceptable solution of the algebraic problem in the December JOURNAL was sent by Mr. F. W. Winter:

Given $\sqrt{x} - \sqrt{y} = \sqrt{x}(\sqrt{x} + \sqrt{y})$ (1)

and $(x + y)^2 = 2(x - y)^2$ (2)

From (1) $\sqrt{x} - \sqrt{y} = x + \sqrt{(xy)}$ (3)

Squaring (3) $x - 2\sqrt{(xy)} + y = x^2 + 2x\sqrt{(xy)} + xy$ (4)

From (2) $x^2 + 2xy + y^2 = 2x^2 - 4xy + y^2$ (5)

$x^2 + y^2 = 6xy$ (6)

Subtract $2xy$, $x^2 - 2xy + y^2 = 4xy$ (7)

$x - y = 2\sqrt{(xy)}$ (8)

Substitute $x - y$ for $2\sqrt{(xy)}$ in (4)

$x - (x - y) + y = x^2 + x(x - y) + xy$ (9)

whence $x^2 = y$ (10)

Substitute x^2 for y in (6), $x^2 + x^4 = 6x^2$ (12)

Whence $x = 0$ or $3 \pm 2\sqrt{2}$

and $y = x^2 = 0$ or $17 \pm 12\sqrt{2}$

Credit for solution similar in part is due E. E. Beckwith and W. J. Brier. As this problem has caused considerable trouble, we venture to point out that if the double sign be given to "$2\sqrt{(xy)}$" in (8) which belongs to every square root, and the negative value be used in (4), the resulting equation will be, $y = 1$ whence, by substituting in (6), $x = 3 \pm 2\sqrt{2}$.

$x = 3 \pm 2\sqrt{2}$, $3 \pm 2\sqrt{2}$, 0.

$y = (3 \pm 2\sqrt{2})^2$, 1 , 0.

To verify these answers it is necessary to take $\sqrt{x}$ with its negative value in first set, and positive in second, while $\sqrt{y}$ must be taken with positive value in first set and negative in second.

sq. rt. $x = -(1 \pm$ sq. rt. 2), $+(1 \pm$ sq. rt. 2), 0.

sq. rt. $y = +(3 \pm 2$ sq. rt. 2), -1 , 0.

As in the first set of answers $y = x^2$, it is clear that sq. rt. $y = x$, and hence the *sign* of the value of sq. rt. y will be the sign used for the value of x, which in the given case was *plus*. But can someone point out how we may know, without *trial*, which of the two roots of x and y will be needed to verify the second set of answers?

PROBLEM.

On the three sides of any triangle construct equilateral triangles. Join the middle points of these three triangles and prove that the triangle so formed is equilateral. B.

T. B. PRAY.

WHITEWATER, WIS.

READING CIRCLE MATTERS.

WORK FOR THE FOURTH MONTH.

ELEMENTARY. PAGE—pages 186 to 230. HISTORY—to page 153. PHYSIOLOGY—Chapters 10 and 11.

ADVANCED I. QUICK—to page 138. FITCH—Lecture V. POLITICS—chapters XX. to XXV. inclusive. HISTORY—to page 478.

ADVANCED II. SULLY—chapters VII. and VIII. BROOKE—to page 93. SWINTON—to page 210.

NOTES.

The teachers of the Mazomanie schools have recently organized a reading circle, and their meetings are very profitable. Some new circles have also been organized in Sheboygan and Vernon counties. The circle at Stoughton is vigorous and profitable.

A member writes: "Why might not Teachers' Meetings be made both more interesting and more profitable by devoting a considerable portion of the time to the Reading Circle work?" That is done in some cases with excellent results.

IN THE SCHOOL ROOM.

WORDS FOR THE WORKERS.

THE best way of getting out of narrow life is to have generous purposes ourselves; is to feel that life is something more than the particular occupation in which we are engaged, and that success in that may be coincident with complete failure as a whole. A man who gets a generous aim and endeavors to live by it will soon learn to respect the larger aims of other men and to understand that their different habits and methods may be quite superior to his own.—*Christian Union.*

THE empire of this country is no longer in the hands of the large cities, if it ever were. It is in the hands of those large country towns where the best men lead the town, direct its education, its local government, and give tone and courage to its people; towns without rings, towns not governed by bar-rooms. It is the men from these towns who are pushed forward into important public life, and loyally sustained by the American people.—*Edward Everett Hale.*

CHILDREN are very much what their teachers make them. I find plenty of deleterious and detestable influences at work, but they are influences of journalism in one place, in another influences of politicians, in some places both the one and the other; they are not influences of teachers. The influence of the elementary teacher, so far as my observation extends, is for good; it helps morality and virtue. I do not give the teacher too much praise for this; the child in his hands so appeals to his conscience, his responsibility is so direct and palpable. But the fact is none the less consoling, and the fact is, I believe, as I have stated it.—*Matthew Arnold.*

SOME TEACHING DEVICES.

IN ARITHMETIC.—An interesting way to teach multiplication is to have the pupils place their hands, with fingers spread, upon the slate, draw it put the number you multiply by a center of the palm, and the the number you multiply where fingers begin; the results at the ends of the fingers.

Five minutes each day we have a general exercise in mental arithmetic, such as counting forward and backward in concert by twos, threes, etc.; adding at first short columns, then long, giving results, then adding in concert, to prove correctness of results; a long column at sight, in concert; again, a rapid exercise in the four processes, oral and silent. This works well in a country school, or one with two or three grades, especially if no mental arithmetic is provided, and is a general exercise which all enjoy. Quite a high degree of rapidity and accuracy—future helps—can be attained, even where scholars are at first slow and not practised in mental arithmetic. If teachers are troubled to secure attention of scholars after recess, try the mental arithmetic, which may be varied each day after recess in forenoon, and five-minute story-reading after recess in afternoon. Insist on the attention, which, almost invariably, will be gained at once, however interesting the fun and games at recess. I have completely cured this source of trouble by these means.—*Penn. School Journal.*

IN GEOGRAPHY —There are many good geographical games ; among the best is one in which the leaders choose sides, and then an umpire calls on members of each side alternately to name a city or river, as the case may be, beginning with a certain letter. The answer must come before the umpire counts ten, or the captain of the opposing side has the privilege of choosing any member from the side of him who fails. An interesting geographical pastime for the winter is the making of extended maps in the snow-covered surface of a convenient field. The boys will outline North America by lines of footprints as readily as the bounds of fox and geese.

IN OBSERVATION.—As a device for training the minds of school children to correct habits of observation; and also to the use of correct and appropriate language in describing their observations, I can recommend, from actual and successful experience, the following method :

Immediately after the opening exercises of the schools each day, I call upon one, two, or three or more pupils, successively, to rise and describe anything *new to them*, which they may have seen or heard of since leaving school the previous day. I require them to use the best language they can command; and, if necessary, I help them to use proper names and terms, and in the construction of sentences. This exercise furnishes an excellent opportunity to give valuable object lessons, as well as additional information to the pupils. When it is about to close (and it should never be long or tedious), I make a special request that every pupil will go home with his *eyes open* to *see anything new* to him; and with inquiring minds, to learn something *new* from his parents, or friends, or from any source. I charge them to be sure to look and hear carefully, so as

to gain accurate impressions with a view to giving a description of their observation at the next school session.

The topic introduced should always be new or different from any previously introduced, unless the teacher may think it best to review an old topic. But nothing should be introduced of a trivial or unimportant character.

If specimens of minerals, plants, foliage, varieties of wood, coal, etc., are brought in, they are utilized as soon as possible, and stored in boxes or drawers for future reference, and each pupil is given credit for such articles as he furnishes. This exercise increases in interest and inspires the pupils to be on the lookout for something *new*, and makes them observe closely. It also serves to make them correct and intelligible talkers. If it is judiciously conducted, the interest and the intelligence of the pupils will increase from day to day, and they will grow up to become more intelligent observers of men and things, and more perfect masters of good language.— *Z. Richards, in Illinois School Journal.*

WHAT is called in Boston "Progressive Observation" is not bad. A tray laden with various small articles is exhibited to the eye for a definite number of seconds, and points are made in proportion to the number of the articles which the player can accurately remember and name upon the removal of the tray.

IN READING AND SPELLING.— Write on the blackboard the word *at:* then –at, –at, –at, etc.; show pupils how to form new words from these by prefixing a single consonant; thus, from –at we may form hat, fat, rat, cat, etc. The board might present the following appearance:

at	ox	it	an	up	eat
–at	–ox	–it	–an	–up	–eat
–at	–ox	–it	–an	–up	–eat
–at	–ox	–it	–an	–up	–eat

Have the pupils invent the words upon their slates and hold them accountable for the work in some manner. They will take great delight in constructing them, for a time. As they progress the words should be made more difficult.

Lists of words in which the vowels are omitted will afford much pleasant work. Thus: b–x, t–x, s–and, p–p–r, m–n, st–v–, r–k–, m–p, P–dd, p–p, br—m, h–n. *Always inspect the slates.*

Take a lesson in the reader and write sentences from the regular lesson upon the board, omitting the verbs to be supplied by pupils in writing; other parts of speech might be omitted Have slates brought to class, and sentences read.

IN LEARNING THE MULTIPLICATION TABLE.—The most common method of recitation is to have the pupils repeat in concert. All pupils like this method probably better than any other. It affords a better opportunity for making a musical or rythmical noise than any other recitation; it is enlivening, and is a relief from the monotony of individual recitations. These facts really commend the method, and would make it the best were it not that one-half of the class sometimes recites for the whole. It is a matter of interest to any one to watch

the class repeating the tables in this way, and to note the number who simply make their mouths move when they should give the product, or wait and catch the word from some acknowledged leader. This is the one great fault of the method, and yet it is rarely done. All the advantages of concert recitation may be retained and the number increased by having the pupils repeat different parts at the same time. The class may be divided into two lines and when the front line has said, for instance, "Eight times one are eight," the rear line will commence.—*Penn. School Journal.*

VARIETY IN READING.—Nothing tends to discourage children more than a constant drill on the same lesson. Give your pupils variety. Rather let them read a lesson but moderately well, and give them some supplementary reading than keep them drilling on a lesson until they tire of it. Many teachers, in their anxiety to secure thoroughness fall into this error and nauseate their pupils with constant senseless repetition. The child, like the man. delights in acquiring new ideas, in fighting new battles, and in testing its strength in overcoming new difficulties.—*Raub.*

OUR BOOK TABLE.

THE "HOW I WAS EDUCATED" PAPERS.

THE "HOW I WAS EDUCATED" PAPERS, from the *Forum Magazine.* D. Appleton & Co.; 126 pp.; paper, 30c.

The idea of getting eleven prominent men to tell the story of their own education was a very promising one, and if the result is a little disappointing the book is, nevertheless, exceedingly enteresting and suggestive. The men are, E. E. Hale, T. W. Higginson, F. A. P. Barnard, Chancellor Vincent, Dr. Wm. T. Harris, President Bartlett, J. R. Kendrick, Timothy Dwight, President Robinson, President Angell, and Andrew D. White. Our disappointment arises from the fact that the experiences furnish so few data, comparatively, for judging of the value of present educational institutions. But this emphasizes the fact that there has been recently a great advance in all grades of education. Not one of these sketches reflects light upon the value of our high schools. The district schools, the academies of the Eastern States, and the colleges pass under our view, but not the high schools — for they did not exist as now when these writers were school-boys. Again, the College which they describe is essentially a thing of the past. Its curriculum, its government, its methods of instruction, have in general passed away with the men who then were teaching. This book, then, ought to bring clearly before its readers the great development in education which the past forty years has witnessed. But there are many practical topics which these papers touch upon, not in the way of theory, of course, but as matters of experienee. Only three of them refer to the ranking system, and those by way of depreciation; nne for its deadening effect upon the teachers, and the others for its mechanicalizing effect upon the pupils.

Almost every one of them bears witness to the powerful influence of some teacher in awakening, by his own zeal, attainments and encouragement, an ambition for study and a love for it which did much to determine the future of the pupils. Dr. Dwight, for example, writes, "For the awakening of my mind, and that drawing out of my powers which is the true education of the man, the instruction which I received from Hawley Olmstead did the work of my school life." Yet Dr. Dwight was Mr. Olmstead's pupil but for two years. On the other hand most of them tell of dreary years wasted under stupid, incompetent teachers. Dr. Robinson says: "Overcrowded schools, incompetent teachers, and the radical mistake of frequently changing schools, with intervals between the changes of long mental idleness, had borne their natural fruits. I was a boy past sixteen with no desire for education, and with about the worst possible habits of study." A fellow student wrought the change in him by teaching him Latin for a few months. "He knew by instinct how to teach. He was the first man that, up to that time, had ever kindled within me a spark of enthusiasm in any study. He soon had me all aglow." Nothing could be more striking than the united evidence of these writers to the almost inestimable value of real teaching, and the worthlessness of much that was found in the schools. Again, the concurrent testimony to the usefulness of the unsystematic self-training which a boy gives himself when an opportunity is offered impresses us. The being turned loose in a good library at from eight to twelve years of age proved, in the judgment of several of these men, of almost incalculable value. Only two or three of them refer in any way to mechanical constructiveness as an element of their early training. President Barnard early found delight in constructing windmills, water-mills, trip-hammers, etc.; and Dr. Harris, from reading a text-book on Natural Philosophy, "under my desk in school hours," made force-pumps and fire-engines on a small scale. Mr. Higginson regrets the lack of such experience, and President Angell "gained great advantage by being permitted to assist the Professor of Chemistry two years." Of literary societies President Robinson says: "In direct education for the real work of life, no influences of my college days were equal to those of this society;" and we have marked similar expressions in two or three others of the papers. These examples may at least suggest the range of topics, and the way in which the papers threw light upon them. Any one of the essays may yield a dozen or more useful suggestions, often so expressed as to fasten themselves firmly in the memory. For an intelligent teacher this is one of the inspiring and helpful books. He will turn to it again and again for inspiration and instruction, and he will always find it attractive and helpful.

SOME PRIMARY TEXT-BOOKS.

MISS WEST'S CLASS IN GEOGRAPHY, (Lee & Shepard, Boston.) Published both in paper and in boards. There has been a great step from the day the old

Mitchell's Geography, the dry detail of which we studied thirty-five years ago, to these days when geography is made so charming a study for children. Miss West's Geography Class adds one more to the number of really interesting books on the subject. The book is a series of familiar talks with her scholars, and by means of these she leads them to describe the geography of the country within their own horizon, and from that draws conclusions in regard to the land beyond their sight. The whole is done in an easy and natural way, with all the enjoyment of a play, and yet the children are really acquiring a knowledge of some of the fundamental facts in physical geograpny, the meaning of water-shed, the value of heat, and moisture, vegetation, etc. From familiar surroundings and real objects, Miss West goes on to the way in which they are represented on maps. She leads her pupils to reason from a map in regard to the physical condition of the country represented, and to judge where, on account of these physical conditions, the important cities would lie. She intersperses here and there, as the subject calls them forth, such facts in regard to the occupations and history of the people, as may interest children, and lead them to learn more for themselves. A hundred pages devoted to America and the remaining eighteen to the other continents. As a whole, the book is well calculated to interest children and to train observation and reason.

NATURE READERS.—No. 1. Sea-Side and Way-Side. By Julia McNair Wright. (Heath & Co., Boston). In contrast to the usual dreariness of the common primary reader, it is refreshing to come upon this little book. In this a child may not only learn to read, but will find that what he reads really gives him pleasure, such pleasure as he surely never could get from "John is a good boy" or "The dog does bite the thief at night." Here we have interesting accounts of the habits, haunts and domestic affairs of Mr. and Mrs. Crab, Mrs. Wasp, the Bee, the Spider and several kinds of shell-fish. In all cases, simplicity of words and construction has been the first object, making it truly a child's first reading book, when he has passed the earlier stages of sounds, letters and detached words. The next object has been to secure accuracy in facts, and this, we are assured has been carefully attended to by competent specialists. The stories are given in short, clear sentences and in a lively, interesting style, well calculated to please children. There is such a charm of personality given to the small creatures described that we feel that the book might have been published under the auspices of the Society for the Prevention of Cruelty to Animals, for much childish cruelty is merely due to ignorance, and knowledge of the busy happy life of these little animals will go far towards taking away the desire to harm them. The print is large and clear, and the illustrations, small wood cuts, freely scattered through the book, are exceptionally charming and true to nature.

A second volume is already in press. It is fully as interesting as the first and treats of ants, worms, flies and beetles. The words and constructions are rather more difficult in this second volume, but none too difficult for a child who has mastered the first volume.

ARITHMETIC FOR YOUNG CHILDREN, by Horace Grant, American edition edited by Willard Small; price, 35c. Amid the daily toil of a primary school, the teacher often finds it a difficult matter to give the requisite freshness and vivacity to every recitation, and the variety which is necessary to hold the attention of children. Especially in the early stages of arithmetic the recitations are apt to degenerate into more disagreeable tasks. Any teacher will find great help in this little book, containing, as it does, such a variety of really entertaining mental examples, well suited to young children. It deals with no number higher than twelve, with a few exceptions toward the end, and it is only toward the end that any use is made of figures. It is intended that the children should obtain a clear idea of number before trying to represent it. The lessons are at first conducted by the aid of real objects, and in the second section measures and weights are practically used. The lessons are adapted to children from three to six or seven, and are entirely confined and mental examples, of which there is a large assortment. We append one: "Five bones were thrown out to a dog; as he was gnawing them comfortably, another dog came up and attempted to seize a bone, and both dogs began to fight. While they were fighting, two other dogs came up, and ran off with a bone apiece; how many bones were now left for their owners to fight for?" This book was first published by the Society for the Diffusion of Useful Knowledge.

EXERCISES FOR THE IMPROVEMENT OF THE SENSES. For Young Children. By Horace Grant. (American edition, edited by Willard Small. Price 50c. Lee & Shepard, Boston). We can conceive of no better use for the time given to general exercises in a primary school, than training the senses under the guidance of this little manual for teachers. The need of such training is obvious when we consider how few grown people really have the full use of their senses, and how much the full perfection of the senses adds to our pleasure and usefulness. In this little book, originally published by the Society for the diffusion of Useful Knowledge, we have Exercises on Familiar Objects. Practical Exercise for the Senses and Hand, and Exercise for the Body. Under each of these heads, we have a great variety of exercises to train eye, ear, hand, etc. There are also exercises which train memory and cultivate thought, on such subjects as are in the experience of children; storms, seasons, water, time, etc. Among the exercises for the hand are the very useful ones of tying knots, threadlng needles, doing up bundles, tying bows, buckling, etc. The children's mothers as well as their teachers would soon reap a practical harvest from such work. There are full directions for teachers' using this manual, and also an admirable preface setting forth its uses.

A FEW THOUGHTS FOR A YOUNG MAN, by Horace Mann, (Lee & Sherpard, Boston). In a preface, by Mrs. Mann, she says: "This little treatise is so often called for, both by individuals and societies, that it is again offered to the public in its original form." In its thirty and more years of life, it has done

much good and in its present very handy form is likely to do much more. It is a neat little volume, of a good size for the pocket.

MRS. W. F. ALLEN.

MADISON, WIS.

—LIGHTS OF TWO CENTURIES, edited by Rev. E. E. Hale, (A. S. Barnes & Co.; 603 pp.; $1.70,) presents a series of select biographies. The subjects are chosen from the prominent men of the last two centuries, and are arranged in five groups, artists and sculptors, prose writers, musical composers, poets, and inventors. The task of choosing whom to include in so small a circle has of course been a difficult one; but it has evidently been carefully studied, and we see no reason to think that a better list could be proposed. It is useless also to suggest that other groups were desirable—men of science, explorers, captains of industry, etc.; the book is large enough with the groups selected, and opens up to its readers most important fields of interest. The biographies are all well written. Not one will be pronounced dull, and taken together they form one of the most attractive means of promoting the general intelligence of young readers which the present year has produced. To know something of the lives of fifty of the most prominent men of the last two centuries is to broaden one's sympathies and thoughts, to gain new ideals and impulses for one's own life, and to lay firmer hold upon the history of human progress. We heartily commend the book to the favorable attention of our readers. The publishers will furnish it to members of Teachers' Reading Circles for $1.40.

—THE SCIENCE OF EDUCATION, by Francis B. Palmer, (Van Antwerp, Bragg & Co.; 341 pp.) deserves the attention of those who are disposed to enter upon the serious study of the foundations of intellectual training. The author proposes to base his science upon the laws of the development of the mental powers. These he thinks all flow from the general truth that mental activity tends to build up higher and higher unities, which become "fixed forms of the mind." His book is devoted to the unfolding of this truth and the inferences and applications which flow from it. This is indeed a most important truth, and Mr. Palmer has done a service by his thorough discussion of it. We wish he had abandoned the rigid forms of his treatment, stating a law, giving one, two, three or more numbered proofs, and then numbered observations under these. This, with a somewhat clumsy style, makes his book harder to read than it need to be. We are not satisfied that the science of education is limited to the laws which underlie the development of concepts, and should prefer to style this treatise a contribution to the science of education, and as such it seems to us worthy of study.

—INTRODUCTORY STEPS IN SCIENCE, by Paul Bent; revised and enlarged by John Mickleborough, (D. Appleton & Co.; 363 pp.; introduction price 90c.), has been put forth by the publishers in a most attractive form, with abundant and very excellent illustrations. These constitute no inconsiderable part of the value of the book as a school manual, and they have been very carefully selected and prepared. The translation also is vigorous, and in many places

the translator has introduced, in parenthesis, supplementary statements such as seemed necessary to adapt the book to American schools. The original had an enormous sale in France, and a translation proved popular in England and other countries. The translator is principal of grammar school No. 9, Brooklyn, N. Y., and has been recently adopted for exclusive use in the schools of that city.

—OUTLINES OF NATURAL PHILOSOPHY, for schools and general readers, by J. D. Everett, (D. Appleton & Co.; 335 pp.) attracts favorable attention at once by its departure from the dry, fragmentary and technical manner of ordinary text-books in this subject. Its author's purpose has been to supply a book easy enough for a class reading book and precise enough for a text-book. He has succeeded admirably. His text is simple, clear and flowing, while his position as Professor of Natural Philosophy at Queen's College, Belfast, and editor of Deschenel's work, give sufficient assurance of the value of his treatise. He has made a book within the comprehension of intelligent grammar school pupils, including leading principles in so far as they can be made plain to beginners, and deferring to a later stage topics having great inherent difficulties. The book is issued in attractive form, and abundantly illustrated.

—PRACTICAL FRENCH, (taken from the author's larger grammar, and supplemented by conversations and idiomatic phrases,) by W. D. Whitney (Henry Holt & Co., New York; 304 pp.) follows, with some important variations, the plan of Otto's "Conversation Grammar." It is the outcome of its author's long experience as a teacher in Yale College, and is characterized by the breadth of view and thoroughness which belong to him. It will be found to be systematic and progressive, building up, step by step, a theoretical and practical knowledge of the language.

—CONTES ET NOUVELLES, par Mme. L. Alliot. (Henry Holt & Co., New York; 307 pp.) contains some twenty-five short stories by French authors, which the editor has proposed for use in the class room by adding, at the close of each conversational exercises, grammatical and idiomatic helps and explanations, in French. These are happily conceived and executed, and help the beginner to enter at once into the spirit of the language. The tales themselves are entertaining, admirable for learning a good vocabulary and not too difficult for beginners. The book commends itself at once as a valuable help for students of the French language.

—NATURAL LAW IN THE BUSINESS WORLD, by Henry Wood, (Lee & Shepard, Boston; 222 pp.; paper 30c.), a plain and honest effort to trace out the working of Natural laws in the business world, and thus dispel the mischievous illusions which are at present so widespread in civilized countries, is now made accessible to everyone in this cheap edition. It ought to be very widely read. The fairness of it, and the cogency of it, make it a very helpful book. Readers who are repelled by formidable treatises on political economy will find in this small volume, simply and clearly stated and sufficiently illustrated, the main principles which prove the fallacy of current socialism.

MAGAZINES AND PAMPHLETS.

— The *Popular Science Monthly* for January contains a noteworthy contribution to the discussion of the tariff question by Hon. David A. Wells, under the title of "Governmental Interference with Production and Distribution."

— *Harper's Magazine* for January opens the discussion of the same subject with a notable paper by Henry Watterson advocating a tariff for revenue only. In the February number Senator Edmunds will present the other side.

— The *Library Magazine* is the cheapest of all the eclectic publications, costing only $1 per year. Subscribers can receive it weekly or monthly. The number for December 10 contains The Catholic Revival of the Sixteenth Century; Science and the Bishops, by Prof. Huxley; The Theosophic Movement in India, and Rural France, besides short articles. This magazine will be supplied to our readers with The JOURNAL for $1.50.

— We enjoy very much the monthly visits of *The Academy*, published by George A. Boem, Syracuse, New York ($1). It is devoted to secondary education, whose interests are discussed in an earnest and practical manner. The December number opens with a very thoughtful paper on Aims and Methods of Modern Language Teaching. Prof. Paine's paper on The Foundations of the High School is very suggestive.

— *Scribner's* opens with an attractive study of Arms and Armor. The Great Pyramid and Japanese Art are beautifully illustrated and interesting, while a Chapter on Dreams, French Traits and Municipal Finance will command attention. Taking into account price and merit this is the cheapest of American magazines.

— *The Atlantic* maintains its position as leader in literary excellence of all our monthlies. Yone Santo, a Child of Japan, opens charmingly and promises to be a great feature for this year. Judson's Remorse is a very taking short story. Craddock's new story, (with a steel portrait of the author), Constantinople; The Golden Hesperides (Warner's account of Southern California); Poems by Lowell and Trowbridge, and a Delightful Chat from Dr. Holmes, are among the attractions.

LITERARY ITEMS.

— George Kennan, whose articles in the *Century* are revealing to Americans the hideous tyrrany of the Russian police and prisons, has been blacklisted by the Russian government and will not be permitted to re-enter the country. Fortunately he brought away notes and documents which will go far to cure Americans of their sentimental sympathy with the oriental despotism of the Czar.

— John G. Whittier celebrated his eightieth birthday on the 17th of December. He began to write rhymes while a mere lad, keeping the fact from all except his oldest sister. She one day sent one of these, without the writer's knowledge, to the Newburyport *Free Press*, which printed it with praise. Whittier was

repairing a stone wall with his father when the paper was thrown to him, and he was dazed and speechless on discovering his poem in print.

—Dr. John Bascom, formerly president of the State University, is living at his old home at Williamstown, Mass., and devoting himself to literary labors.

—The New York *Nation* says: "It is to Mr. R. W. Gilder, more than to any other man of his years, that we must look for leadership out of what Mr. Steadman has called the twilight of the poets, in order that we may yet have another productive era in American verse."

—G. & C. Merriam, publishers of Webster's Dictionary, deny the statement extensively circulated that a new edition of that work is soon to be issued. Constant revision is going on and has been for many years. Besides this, editorial labor has been for some time directed to an ultimate revision of the entire work, but this is yet very far from completion. No revised edition of the unabridged will appear for some years.

NEWS AND NOTES.

—The Pickard Reception Memorial preserves, in a neat pamphlet the record of the reunion of teachers and pupils of the Platteville Academy, held last August to meet the former principal, Prof. J. L. Pickard. Here are the speeches, poems, and letters presented on that occasion, and sketches of Prof. Pickard and his assistant. The pamphlet shows how strong and wide spread is the influence of a good school. The genuine expressions of regard and thankfulness, which but for this meeting might never have been uttered, are evidence of the feelings which cluster about hundreds of our institutions; and the letters come from many states, literally from New York to California, for no good school in this country exists for its own town or its own state merely. One can hardly look over these memorials without becoming in spirit a member of the group, and enjoying the feelings of the occasion.

—We are pained to learn that Mr. A. P. Delaney has been compelled by ill-health to resign the principalship of the Columbus high school, and goes to California, in hope that a milder climate may favor his recovery. His place has been filled by the appointment of W. J. Pollock.

—The State Superintendent has appointed Mr. Theodore S. Chipman, of Terrill, County Superintendent of Waushara county, in place of Eugene Monroe, deceased.

—Dr. H. Allen, County Superintendent of Oconto county, has resigned his position in order to make a trip to Europe.

—Principal Brier, of Baraboo, held an entertainment, prepared by the children of the public schools for the benefit of the school library, and cleared about $150.

—Grant county has eight free high schools, located at Boscobel, Fennimore, Hazel Green, Muscoda, Bloomington, Lancaster, Mount Hope, Potosi; and Montford has already voted in favor of establishing one at that point. Platteville also has under consideration the project of establishing one. The presence of the Normal School has prevent-

ed this step hitherto, not because the Normal is in any way opposed to such a move, but because so many of the citizens have thought a high school unnecessary on account of the opportunities offered at the Normal. Experience seems to have shown that this is a mistake. Our Normal Schools are professional institutions, and cannot do the work of a high school in elevating the general culture of the local community. If the measure carries at Platteville every one of the towns where a Normal School is located in this state will have its own high school also.

—In the apportionment of the high school fund this year one hundred and thirty-four schools shared. Of these seventy-eight received each $215.70. The remainder received sums varying in amount from $32.34 to $204.93, most of them receiving above $150. In addition to these, under the Town High School law, the following apportionment was made: Little Wolf, $249; Marshall, $350; Fremont, $120.

—The teachers of Pierce county held an Association meeting at Prescott on the 17th of December, with a practical and interesting program.

—The City Institute at Fond du Lac Nov. 25th was conducted by Prof. Harvey and Miss Swartz of the Oshkosh Normal School. The attendance was good and the interest great throughout the session. The thoroughly earnest and business like spirit which characterized all the meetings was very gratifying.

—A Union meeting of teachers from Rock and Green counties was held at Brodhead Dec. 3, and greatly enjoyed by all in attendance.

—The State Public School at Sparta is now prepared to place children in good homes in this State. The Agent, Hon. Allen Rusk, of Sparta, is accordingly anxious to correspond with persons who are willing to undertake the care and training of one or more unfortunate children, who are left without natural protectors.

—The school board of Whitewater have ordered for their public school library all the books recommended in the list by the State Superintendent.

—The list of high schools accredited to the State University has increased very much of late. There are now, in all, sixty of these schools. Twelve are accredited for all the courses: one for Ancient Classical and the General Science Courses; eighteen for the Modern Classical and General Sceince Courses; nine for the Modern Classical, General Science and English Courses; ten for the General Science Course; four for the General Science and English Courses; and six for the English Course. Since the last catalogue was issued high schools have been accredited as follows: To all the Courses, Fond du Lac, Kenwood Institute, Albion Academy; to the Modern Classical and General Science Courses, Prescott; to the Modern Classical, General Science and English Courses, Darlington, the three high schools in Eau Claire, Necedah, Sheboygan, De Pere, Whitewater; to the General Science Course, Reedsburg, Wausau, Waterloo; to the General Science and English Courses, New Richmond, Boscobel, Oregon, Waupaca; to the English Course, Chippewa Falls, Lake Mills, Sharon, Stoughton, Wauwatosa.

—The new public school building in the eastern portion of Waukesha is rapidly approaching completion. It is built of cream colored brick with terra-cotta trimmings, and presents a very attractive appearance.

—The new catalogue of the University will show, among other changes, new courses adopted to the wants of

graduates of the State Normal Schools. These courses are so planned that graduates from the full courses at the Normal schools can finish in two years, completing either the Modern Classical or the General Science Courses at the University.

—De Soto, on the banks of the Mississippi, holds, usually one or two "Inter-State Teachers' Associations" during the year. The gathering on Dec. 2 and 3 was a good one, and made noteworthy by a lecture in the evening on The Philosophy of Wit, by Eli Perkins, The Wisconsin teachers in attendance came from Vernon and Crawford counties, and Supts. Burgess, Harper and Mahoney took part in the exercises.

—Mr. G. H. Balg, of Mayville in this state, has been occupied for some years in the preparation of a Comparative Glossary of the Gothic Language, which is soon to issue from the press. The book will have an introduction by Prof. F. A. March, of La Fayette College, who expresses much interest in the undertaking, as does also Prof. W. D. Whitney, of Yale. The book promises to be exceedingly creditable to American scholarship. It will be sold by subscription.

—The next annual meeting of the National Educational Association is to be held in San Francisco, California, July 17 to 20. Very favorable railway rates will be offered from all leading cities of the country, with choice of routes going and returning. The rates are not to exceed one half the ruling fare at the time, or one fare for the round trip. Special excursion rates will be be made to points of interest on the Pacific coast and to Alaska and the Sandwich Islands. The people of California are prepared to give the Association an enthusiastic welcome.

—Science Hall, at the University is now rapidly approaching completion. Workmen have been engaged for some weeks in constructing the massive stone steps which lead up to the building, and in finishing the front entrance. Within, many of the rooms have the floors laid and are nearly ready for occupancy. The furniture for several of the lecture rooms has already been purchased, and will be in place in some of them by the opening of the new year. It is hoped that some classes will be able to meet in the building soon after the opening of the next term. The building is fire proof, finished in the most thorough and substantial manner, and is a credit to the state and to the institution. It furnishes laboratory facilities unequalled in the west. The great expansion in facilities for instruction in science and engineering afforded by the erection of this building, the chemical laboratory and the workshops can only be appreciated by those on the grounds who were familiar with the former arrangement.

—The teachers of Clark county held an interesting and profitable meeting at Neillsville, Dec. 3, under the dircetion of Supt. Addie Neff.

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SOME LINES OF PROGRESS IN OUR EDUCATIONAL WORK.

[Address before the Wisconsin Teachers' Association.]

It was not my original purpose in selecting the topic assigned me in the program, nor is it my present purpose to enter, in detail, into the discussion of educational progress, or undertake to demonstrate what progress has been made. The printed analysis of my theme which has been made by the president, in the published program, makes prominent two phases of educational work to which I had not designed to give special emphasis.

The idea which has probably suggested and directed what I have to present, is expressed in a generalization reached by Ward, in his work on Dynamic Sociology, which makes education, in the broadest sense, the means by which humanity is put into possession of that knowledge which is essential to the formation of correct opinions. According to this view, school education is the most remote, and yet the most potent means of progress. Comprehensive and accurate knowledge is the direct means by which correct opinions are formed. Correct opinions, in turn, form the basis of correct action. Correct action, again, becomes the direct means of harmony with environment and thus harmony becomes the means by which ultimate and certain progress is determined. School education thus implies a more effective means than experience or experiment, by which the people are put into possession of that knowledge which is essential to life, social order, and progress. The knowledge which an individual obtains through experience must of necessity be very limited in view of the accumulated wisdom of the

race, it generally involves a great waste in acquirement, and is frequently obtained too late to be of any practical value to the individual.

Accepting this view of education, and applying the doctrine to a system of public education, the foundation for progress must be found in organized unity and harmony, among the sections of that system.

The constitution of Wisconsin, and the statutes enacted pursuant to its provisions, have furnished quite as comprehensive a system of education as exists in any state in the union. Excluding private schools, special provision for the education of the unfortunate, the vicious, and the indigent, we have a magnificently equipped university, five normal schools, about three hundred and fifty high and graded schools, and about seven thousand common, or district schools. No argument is now necessary to establish the imperative need of each of these factors as a means of securing that education, and those facilities for education, which the people, by constitutional provision, have assumed and imposed upon the state as a duty.

Theoretically speaking, each branch of this system represents a separate phase of work, having a distinct purpose, with scope and limitations quite clearly defined.

Thus a university is an institution of higher education, implying by its existence a demand for instruction and means beyond the limits of other schools, and requiring maturity, sound secondary education, and love of learning, as conditions for admission to its courses of study. With such preparation, the university can, and ought to be occupied in giving its students a broad general culture and power to master some chosen department of knowledge.

Practically, our university has its origin in the provisions for an educational system, and its growth in the development of other institutions. Indeed, it is, and must be, in a measure, ever conditioned upon the work done in other schools, but it becomes a university only as it ceases to be confused in its aims, purposes, and work, with colleges and high schools. Our university is an institution prospectively well equipped in every material sense, endowed with popular favor and ample means, with well planned courses of study, and a sufficient corps of professors and instructors, whose scholarship, training, and experience are a guarantee of ability to do the work of a true university.

But it must not be forgotten that a real university cannot be bought. Magnificent appropriations, buildings, and apparatus do not constitute

it, and it cannot exist if its professors must be largely occupied in dealing with immaturity, with persons untrained, whose purpose is not that of higher education. Under such conditions, instructors must be occupied in supplementing the work of defective preparation, or ignoring such deficiency, waste time and effort in attempting results unattainable.

While a university cannot exist out of union and proper relation to its preparatory schools, it must not be supposed that the preparatory schools can best determine what that relation should be, by fixing standards for admission. High schools have purposes and ends distinct from the preparation of students for courses in the university, and if their graduates are fitted to enter the university, it is because the best training, with limits of time and means, profitably assigned to the work of the high school, has developed in its students an ambition and power, and inspired them with a desire to reach an end through the means of a course of higher education. On the other hand, no mere idolizing of numbers ought to be permitted to determine courses of study in a university, or admission to them. A practice of admitting students on conditions is dangerous, and a back door or side door provision for entrance, tends to lower the standards of required qualification, and is alike fatal to the best interests of the university and its preparatory schools.

A great point is gained in the growth and development of an institution of higher education, when its standards of admission and character of work are well established, thoroughly understood and rigidly observed. Without reference to any particular facts, it is a logical conclusion that a state university under a system that requires technical tests for admission should place its standard up to results attained and attainable by any considerable number of preparatory schools. Less than this would involve an unnecessary burden on the curriculum of the university and deprive the preparatory schools of an important stimulus to growth and progress.

There are at present 134 titled high schools in the state, and the work actually done in many of these schools scarcely passes beyond the limits of primary or grammar school education. Many of these schools have been recently organized, are in an undeveloped or formative stage, without adequate supervision, guided by enthusiastic, inexperienced principals influenced by popular clamor, struggling to attain what is theoretically incorrect, and practically impossible. There is

danger that many of these schools will be unduly influenced to modify and enlarge their courses of study, with a view to securing a place on the list of accredited schools. This tendency will be augmented by ambitious principals, more frequently by patrons who desire their children to receive the benefits of a university education. The local interest thus manifested is truly encouraging, and the ambition thus expressed is praiseworthy, but without thorough inspection, good judgment, and firmness in the administration of a policy of accredited schools, evil consequences must result, both to the university and high schools. The objections made by many thoughtful principals to accredited lists are that the standards of admission to the university are not thus clearly defined, that the tendency is to deal with tests of classes rather than tests of individuals, and that the most wholesome stimulus is not thus afforded either for the principal, or his pupils.

It does not seem to me that the fitness of each student to enter upon a course of training in the university, is a wise condition to impose upon the graduates of any high school. It is perfectly evident that, in the practical and judicious management of instruction in the high school, an individual pupil may have pursued the prescribed course in the high school with the greatest profit to himself, in view of what he is to be as a citizen, and yet not be prepared to enter upon a course of higher education, while another of the same class, pursuing the same course, under the same conditions, has attained the required result, and is, by ambition, purpose, and means, fitted to enter the university.

The high school in a theoretically complete system of public instruction, is an institution devoted to secondary education. In many so called high schools in the state, however, the practical condition is a higher department of the town, city, or village school, varying in course of study, scope and character of work and attainments. That is, some higher departments of village schools are burdened with primary instruction, while some of the like departments of city schools pass beyond the limits of secondary education, and fairly trespass upon the field of university work. It is not possible, with the latitude that has been given by legislative enactment to the organization of high schools, that a uniform course of study can be devised that will meet the practical demands and needs of the communities in which the schools are located, and at the same time fit students to enter upon literary and scientific courses in the university. From the conditions that actually

exist, and must exist, it is evident that there will be a gap between the requirements for graduation in many town and village high schools, and the requirements for admission to the proper work of the university. Not that there is anything incompatible in the nature of the practical high school course and its correlative course of study in the university, but many of the high schools are too poorly equipped with teaching force, too heavily burdened with elementary instruction, to undertake the extent of work and results which the university ought to demand, in justice to its legitimate purpose, and to other schools.

The authorities in the university have wisely given preparatory schools great latitude by multiplying courses and giving a wide range of elective studies whereby it has reached out and down to every worthy effort, and with the relations thus established, a sound policy demands that with increased experience, wealth, and strength, it should rise, bearing with it those schools that are in organic relations to it. In this manner can the university give a great uplift to the work of our entire educational system, meet the demands of an advancing civilization, and justify any necessary expenditure for its support and maintenance.

I take pleasure in reading in this connection extracts from the manuscript of the forth coming catalogue of the university which has been handed me by the courtesy of President Chamberlin, indicating the present policy of the university upon the subject under discussion:

ADMISSION OF STUDENTS FROM ACCREDITED SCHOOLS.

"The graduates of accredited schools upon presenting appropriate certificates, will be received by the university without examination, into the courses for which they have been fitted. For mutual convenience the university will furnish blank certificates for this purpose. Students from accredited schools who are not graduates, but who have completed the required preparatory studies, may be admitted on the special recommendation of the principal. Students of such high schools who are not graduates and who are not specially recommended for admission by the principal, must expect examinations as other candidates.

"The entrance examinations are not designed as an artificial barrier to entrance, but simply as a necessary means of determining, in the interest of the candidate, not less than of the university, whether he is prepared to pursue profitably the course offered. The variety of courses

is such that few can fail to find admission who really possess intellectual attainments which fairly rank them with university students.

"Real equivalents will be taken for any of the above requirements. There are, however, two classes of equivalents which the student contemplating admission should carefully distinguish. Equal amounts of equally successful study in different branches may be equivalents in the general sense of representing equal intellectual acquirements, but they may be very far from being equivalents in the sense of being substitutes for each other in a given course of study. It is the policy of the university to accept equivalents in the broader sense of the term, so far as simple admission to the university is concerned, but such equivalents cannot always be accepted as substitutes for other studies in admission to given courses. Certain studies are a necessary preparation for other studies in a given course, and no other preparation can be accepted.

"Conditions are granted in cases which seem to justify them; that is, time is allowed candidates within certain narrow limits, to make up studies upon which they are not fully prepared; but even this cannot wisely be done unless the student is naturally strong, and is incompletely prepared merely from lack of opportunity. Students of schools which furnish excellent facilities for preparation cannot expect to gain by coming to the university before their preparation is complete. On the contrary, they are liable to endanger their future success by attempting to enter prematurely."

The doctrine which I have here presented with reference to the growth and progress of university and high school, is alike applicable to the development and efficiency of normal schools. Normal schools have been established for a specific and distinct purpose, and strength and character in their work demand concentration upon theory, art, and practice of teaching. In so much as these schools take on the burden of instruction in the elementary branches, emphasize the instruction attained and attainable in other schools, just so much must they lose their distinctive character, and fail to justify a separate existence. It is not sufficient to argue that normal schools must accept those who apply for admission, and if found deficient in essential scholarship, must do the best they can, since those who apply will teach, whether they are admitted or not. Such a view of the normal school would put it out of proper, or into improper relations to other schools. Such a policy would invite unqualified persons whose ambition is to obtain a county

certificate, and would repel those who seek professional training, and special preparation for teaching. Hence a preparatory department for preparatory work in the normal school beyond the limits of indirect reviews of elementary subjects, is an obstacle to progress, and unwarranted by its very nature and purpose. It would seem to me that the qualifications for admission to the courses of training which these schools afford should be clearly fixed within the range of results that elementary schools can, ought, and do attain, and having been fixed, should be rigidly observed.

A rule of the board of regents of normal schools authorizes the nomination of six candidates for admission to the privileges of these schools from each assembly district. It has occurred to me that it would not be unwise to enforce at least the spirit of this rule, by providing a judicious system of local competitive examinations, in which age, health, character, and scholarship should form the basis of the required standard. It does not seem to me in the matter of scholarship unreasonable to exact, that persons who seek admission to normal schools should have learned in other schools to read, speak, and write the English language with a fair degree of facility, be able to solve the ordinary practical problems in arithmetic with facility and accuracy, and should know the elements of geography, and have a fair knowledge of the leading events of the history of the United States, and with all this, should have acquired the power to read, study, and think. With such a standard, dignity and character would be given to the specific work of the normal school, and a clear distinction would be made between the results of real training schools for teachers, and the limited or superficial results of institutes and appendages to other schools. Several good results would seem to me to necessarily follow from such a system of selecting students. Fit persons would be encouraged to seek admission, and unfit persons would be excluded. These schools would be relieved from a great burden of work which is much of it waste, and applicants would be relieved from the embarrassment of uncertain results of entrance examination on arrival at the schools. A better idea would prevail in regard to the distinctive work of training teachers, and the results of such work would be better appreciated.

I am aware that there is some practical difficulty in attaining, at present, the conditions for exclusively professional work for normal schools; but it seems to me perfectly clear that the effort and tendency should be

in that direction. The chief obstacle is the fact that superintendents whose fiat makes the legal qualification of the teacher, do not place sufficient stress upon tests that relate to the professional qualifications of applicants. So long as a knowledge of theory, art and practice of teaching is not made a prerequisite in superintendents' examinations, high schools, and even district schools, will continue to assume the duty very largely of preparing teachers for county superintendents' examinations, and the average person will not look beyond such means for preparation. If theory and art of teaching could be made the leading subject in teachers' examinations, a better idea would prevail in regard to qualifications for teaching, and there would be a growing demand for that instruction which normal schools were created to give.

A policy of temporizing, pretense of accomplishing desired results by an indirect and uncontinuous process, or by superficial, perfunctory efforts appended to the burden of the work of high schools, implies that there is no science or art of teaching, and more than this, that nothing can be gained by experience and practice. Such a view is unsound in theory, and is practically detrimental to the establishment of higher standards of qualification for teaching.

My conclusions respecting the functions of teachers' institutes are implied in what I have stated in the foregoing in regard to other educational means. No one familiar with the growth and history of institute work in Wisconsin can fail to discern the constant factor. In all the discussions upon the institute question, in the meetings of this association, and in the meetings of institute conductors held for the purpose of formulating ideas and outlining means, there has been substantial harmony as to the main purpose of teachers' institutes.

To reach the great body of teachers with new ideas and higher ideals as a means of avoiding stagnation and dull routine, and a means of awakening an interest in public education, and fixing the attention of patrons and school officers upon means for improvement, if I am not in error, were the original, and have been the controlling thoughts and purposes of institutes. Notwithstanding that incidental and indirect results of great value may follow from the means and methods employed, the *esprit du corps*, professional enthusiasm, the thinking, which are the foundation for thought and progress in the school work which follows the institute, constitute its chief value and characteristics. It is the new thought and the common spirit, the inter change of opinions which pre-

vents, not only the young teacher, but the old teacher from falling into the mechanical routine and the narrowness, bigotry, and stupidity of isolation. It seems to me that what has been designated the institute problem, has been theoretically solved, and a general formula obtained. It seems to me, therefore, a line of institute work that will supply the conditions for solving the practical problem, must be broad enough to exclude professional jealousy, and include the interests of teachers of all grades of elementary schools, superintendents, school officers, and patrons. The work must be limited in time, so as not to interfere with regular engagements and employments, yet long enough to admit of a definite plan of work. This practical scheme must of necessity exclude direct efforts to give elementary instruction in the branches to be taught, but include discussions of courses of study and methods of teaching. It must include school economy and management and must provide for consideration of topics of general interest, as a means of enlisting the sympathies and co-operation of school officers and parents, and above all, the institute must be under the direct and immediate charge of persons who comprehend its purposes, and are experienced and successful teachers.

This practical scheme of institute work excludes not only as direct objects the work that belongs to primary and secondary schools, as such, but also the legitimate work of the normal school. That is to say, the institute should not be directly occupied in attempting to do what has been assigned to other educational agencies. Not but what the institute must have a tangible basis for work, and deal with subjects common alike to high schools and normal schools, but the purpose is different, and a different treatment of subjects is required. There is no warrant in the assumption that the institute can, economically and profitably, undertake instruction in the various branches, in view of the number of schools established and maintained for that specific purpose, and to assume that the legitimate work of training teachers can be done through the medium of the institute, renders the existence of normal schools entirely unnecessary. My conception of a teachers' institute, therefore, does not make it a perambulating high school, nor a traveling normal school, but rather an educational agency for lighting up and inflaming the minds of the great body of teachers actually engaged in the work, and inspiring communities with the spirit of progress and improvement that will lift the common schools into conditions of efficiency. Until

the people, who, under our system, practically determine the qualification of teachers of district schools, have improved notions in regard to teaching, there is no hope of progress except through the improvement of teachers, which must be slow, in the absence of a demand for better qualifications. So, an important function of the institute is to furnish a stimulus to progress at the initial point by educating the people. If our institute vehicle has dropped into ruts, and is thereby hindered in its progress, I trust that the discussion that is to follow will result in lifting it out, even at the risk of breaking some of the wheels. So long as there is substantial agreement as to the aims and purposes of the institute work, no serious consequences can result from experiments as to means. Indeed, great latitude in detail of means must be given to those entrusted with the execution of any comprehensive institute scheme.

The basis of instruction in institutes for the past few years has been the course of study for elementary schools, and has furnished the most definite plan yet devised for the discussion of methods of teaching, alike interesting to all grades of teachers. But if undue prominence has been given to this subject, and thereby the interests of patrons and school officers have been neglected, then certainly our plan and practice should be modified by recurring to the fundamental purposes of the institute.

An opinion prevails to some extent that our teachers' institutes ought to partake more of the form of farmers' conventions, and I submit for your consideration whether it is now advisable to return to pioneer methods of interesting the people and awakening public opinion, and make such an object a definite and leading aim of the institute. True, the evil and excellence of our common school system both lie in the close relation of the people to our elementary schools. Local control and management are so nearly absolute, that the school cannot be much advanced without advancing public opinion. To meet this demand, if there be such, institutes must be of brief duration, greater in number, and so distributed as to reach the people, not only in cities and villages, but in rural communities, and be held at appropriate seasons of the year. The schemes of work must provide for discussions of questions of interest to parents and school officers whose active co-operation must be secured. Is it not wise, with the many practical difficulties at once suggested, to undertake more in this line than is at present provided for by evening addresses and lectures? County superintendents, through

the means of teachers' meetings, public addresses, and educational columns in local papers, are accomplishing results that cannot be overestimated in their effects upon public opinion. Will the conditions warrant directing the forces of the institute to the accomplishment of such purposes?

Permit me, in brief review, to state the thoughts that underlie and seem to me to suggest relations that must exist among the factors in our system of public education, to render it most effective in accomplishing the objects for which it has been ordained and established.

1. Each factor has a distinct purpose and accomplishes best results and contributes most effectively, when its means are devoted to the upbuilding and attainment of that purpose.

2. That the university, standing at the head of the system, has for its purpose higher education, broad general culture and most advanced special training, and should therefore be devoted to that range of knowledge and intellectual power which is the most remote, and yet the most effective means of progress.

3. That the relations of the university to the high school should be such as to foster and encourage work and results most beneficial to students in the high schools who do not as well as those who do purpose to enter the university.

4. That the university can best determine its conditions for admission, as well as its conditions for graduation.

5. That high schools have other ends than to fit students for the university, and they should recognize that the best results can be attained by thorough work, within the limits of their respective powers and means, and that the quality of work done, within these limits, determines the value of the preparation, not only for citizenship, but for progress and advanced scholarship.

6. That normal schools are special schools, established for the purpose of training teachers for work in the common schools, and that their ultimate success and justification lie in their practical adherence to the objects for which they were created.

7. That a teachers' institute is an agency in our system designed to reach the great body of teachers in all grades of schools with new ideas and methods, to cultivate enthusiasm and professional spirit, and awaken among the people an interest in the cause of education. That

the institute is not, and cannot be, a substitute for the high school or the normal school.

8. That the universal law of progress is unity and harmony.

In this spirit, and in this faith and hope, this paper has been written, and is respectfully submitted.

THE RIGHTS OF CHILDREN.

The day has long gone by when only to the rich man's child were accorded the privileges of education. It is now generally conceded in all civilized countries that not only do *all* children have the right to be educated, but that it is for the safety and progress of the nation that this right should be freely accorded them. Even to the afflicted—the deaf, the dumb, the feeble minded, it is now granted that special training shall be given. The waifs of society are brought together into homes and schools, where the care of parents is given them as well as the tuition of teachers. Into day nurseries are gathered wee ones whose mothers must go out to work for a livelihood. Free kindergartens, mission schools, night schools, and similar institutions exist in our cities and larger villages, which indicate that public sentiment is unanimous in regard to the right of children, without respect to wealth or poverty, color, race, mental or moral capacity, to the best education which they are capable of receiving.

While there is scarcely a dissenting voice on the question of the general principle underlying all this, there is frequent opposition to the specific application of the rule, and still greater to the logical course to be pursued. While it may be conceded by the voters of a district that children have a right to the best educational facilities the district can afford, there will be a wide divergence of opinion as to what amount of money can be afforded, and generally the party advocating cutting down expenses is the party that wins the day. The logical sequence from the general rule would make it the duty of those who have charge of our schools to carefully consider every plan that is proposed for their improvement. Yet it is usually the case that the controlling influence will say, "Our schools are good enough now, and we don't need to to try any new ideas." Or, it will probably be said, "Schools are better than when I was a boy, and even if they were only as good as then,

I would say that what is good enough for me is good enough for my son."

Our schools will never be "good enough," unless they are kept up with the times. Even the most careless observer knows that this is an age of progress, and that there must be advance in educational matters as in everything else. Every man knows that more will be expected of his son than is or has been expected of him; that the son needs to be better prepared than was his father for taking any place whatever that his father took before him. Twenty-five or thirty years hence the world will demand better farmers, better machinists, better builders and carpenters than we have to-day. The little children of the present, who will then guide the improved plows, run the improved machines, and build the improved architectural structures, have a right to be prepared by their parents for this future work. They have a right to whatever school advantages will best prepare them. No parent, no school director, no voter has a right to set aside a proposed improvement in our educational system with the sweeping statement, "Our schools are good enough now," unless prepared to say that *everything else is good enough now.*

At no time in history has the attention of the greatest minds of the world been so generally devoted to educational problems. The right of children to the best results of such thought has never before been so clearly established. Philosophers and philanthropists now devote their best effort in this direction. Genius uses its pen to write for children. One of the greatest authors of the century paused in his severer labors to write a child's history of England; the poet who wrote the grand ode on Immortality penned also rhymes for childhood. The philosopher of the Good, the Beautiful and the True, gave children the story about the King of the Golden River. The author of Social Ethics penned one of the profoundest essays on education that has yet been written, and has pointed out the needs of the child in its earliest gropings after knowledge. The printing press is daily giving to the world books about children and books for children's entertainment, written by men and women whose names are recorded high on the rolls of literature. Let the children be accorded their right to these books. Give them the benefit of what has been found for them by these great minds. Give them, too, the books that were written for their exclusive reading. As we may justly lay claims to the papers,

magazines and books written for maturer minds, so too have the children a claim upon what has been penned for them. Good results must follow such a course, and only good results. Only good results can follow such a course. Let the children read. Let it be a part of their school work to learn the contents of good books, and if the school is without a library let one be established. It is the right of the rising generation to have all this, and let no man say them nay. *

PHYSIOLOGY AS RELATED TO STIMULANTS AND NARCOTICS.

STUDY OF THE SKIN.—OBJECTS OF THE LESSON: To teach that: 1. The skin is composed of two layers, epidermis and dermis. 2. The epidermis consists of an outer horny, colorless layer made up of flattened scales, and an inner soft layer made up of more rounded cells, which contains the pigment giving color to the skin. 3. Hair and nails are modified forms of the epidermis. 4. The dermis consists of an outer papillary layer, containing the organs of touch, and an inner layer made up of a close web of white fibrous and elastic tissue, to which the strength is due, and which is converted into leather in the process of tanning. 5. There are many slender tubes, called the sweat glands, whose lower ends are coiled into knots jnst below the dermis, and which open on the surface of the skin. 6. Connected with the roots of the hairs distributed over the body are glands secreting oil for the hair and skin. 7. The functions of the skin are to protect the delicate tissues beneath from injury by contact with external objects, to prevent excessive evaporation from, and the absorption of poisonous materials into the system; to diminish the rate at which heat can enter and leave the body; to regulate the temperature of the body; and to remove waste materials from the system.

Through our experience with blisters we have learned that the skin is readily separable into two layers, an outer called the epidermis and an inner called the dermis. When the hair is brushed, flat, dry scales fall from the head; these are portions of the horny layer of the epidermis, which are being shed continuously from all portions of the body and as steadily replaced by the growth of cells in the lower layer of the epidermis. As the cells are lifted upward by the growth of new cells beneath them, they cease to be full and soft, and become dry, horny and

flat. In the soft lower cells of the epidermis are produced those colored granules which give rise to freckles and the dark skin of colored races; bright sunshine causes them to be developed in great abundance, and this is the cause of tanning. Hair and nails, and the horns, claws and hoofs of mammals, are modified forms of the outer layer of the skin to meet special demands. At the root of each hair there are situated usually two or more oil-glands, which secrete and pour into the cavity in which the hair stands an oily fluid. This by its overflow tends to keep the hair and skin soft. It is this oily secretion too which makes it necessary for us to use soap in cleansing the skin. Just as the horny layer of the epidermis is formed by the lower layer and pushed upward as it grows, so the hair and nails have the same manner of growth. The mark or jam on the nail, which we have seen move outward toward the end and finally disappear there, proves this manner of growth for the nails. Then we have noticed, with people who dye their hair or beards, that there soon forms next the skin a zone of undyed hair, which proves the growth of hairs from the root.

Look closely at the palms of the hands. The skin is thrown into fine and very orderly ridges and furrows. These ridges are due to rows of elevations or papillæ which rise from the surface of the dermis or true skin. In some of the papillæ the *end organs* of the sense of touch are situated, while others contain loops of bloodvessels which bring the materials out of which the epidermis is made. We can readily understand how the end organs placed in little cones beneath the skin are well situated to be disturbed by pressure from without. These papillæ are found in other parts of the skin also, and form what is called the papillary layer, but are not disposed in the same orderly manner. Now, with a common hand lens, look closely at the crests of the ridges on the tips of the inside of the fingers. If the fingers are perfectly clean, you will have no difficulty in observing a close row of pits extending along the crest of each ridge. Shut the hands loosely during about one minute, and then hold the fingers in the bright sunshine. Numerous minute beads of perspiration will be seen standing on the crests of the ridges. Hold the palm of the hand close against a cold window pane. A cloud of moisture at once gathers on the glass. The small holes ranged along the crests of the ridges are the mouths of the sweat glands, from which the tiny droplets and the moisture which bedewed the window pane escaped. These glands are essentially tubes, about ¼ of an inch long,

whose lower ends are closed and coiled into knots just below the true skin. As the tubes rise through the thick epidermis they become coiled cork-screw fashion, and open obliquely under scales of the outer skin, both features serving to prevent the glands from having their mouths clogged with dirt. Over the coiled ends of these glands the capillaries, bringing blood to be purified and water for the purpose of cooling the body, form a network; and so numerous are these tubular glands, and so important is their function, that they have an aggregate length in the human body estimated at over nine miles.

In the functions it has to perform the skin is a very important organ. Most of us know how sensitive to the touch any portion of the body is from which even the outer layer of the skin has been removed; we know too that a drying wind blowing upon such a surface produces pain, and that the contact of cold air with such places irritates when it does not the adjacent parts. These experiences teach very clearly three functions of the epidermis. The extremely sensitive touch-organs, placed in the skin to enable us to know what pressures and contacts are likely to injure the body, are so shielded by the horny layer of the epidermis that the necessary contact with objects does not pain us; then this layer is so compact and dry that ordinarily fluids dialyze through it very slowly, and it is also kept oiled by the oil glands to further diminish its dialyzing power. Thus excessive evaporation from the body, which would give great pain by chapping and cracking the tissues, as indeed it sometimes does, is prevented; while, owing to this same property of the skin, we are able to handle things which are really poisonous, because the horny layer prevents their absorption into the system. The physician who has to make a post mortem examination, or who is in any way obliged to handle poisonous substances, is very careful to cover with court plaster any abraided portions of the skin. He may even cover his hands with oil to further guard against injury, and we should be similarly careful. The horny layer of the skin is a poor conductor of heat, and serves, like clothing, to prevent the too rapid loss of heat from our bodies, while at the same time it enables us to handle objects which otherwise would quickly burn us. We have already seen that the skin is an important purifying organ, removing from the body water, saline substances, urea, carbon, dioxide and various volatile substances; and that it has another equally important function, that of maintaining a uniform temperature of the body. We are all familiar with the fact that when we become over-heated, in health,

we begin to perspire more rapidly, and the skin becomes flushed. This increased action of the skin, however, is not because there is more waste to be removed, but because the internal temperature of the body has become too high, and there are two ways provided for reducing this. The bloodvessels leading to the skin are dilated so that more blood moves through the skin in a unit of time, more heat is thus radiated and conducted away from our bodies. But how is this done? Hold your hand near a hot object. You feel your hand getting warmer. Now hold it near a cold object. A sensation of cold is produced. In these cases wave-like motions were going away from the hand and from the hot and cold bodies continuously, but more motion passed from the hot body to the hand than from the hand to the hot body; and the hand was heated and the body was cooled; in the second case, more motion passed from the hand to the cold body, and then the hand was cooled. It is in this way that our bodies are cooled by radiation. Again, if we lay our hand upon a cold object the molecular motion—heat—of the hand is transferred, and increases the molecular motion of the body we touch. By this method of conduction our bodies are cooled by coming in contact with air and other things. The surrounding temperatures, however, are frequently so near that of the body that our bodies cannot be cooled either by radiation or conduction, and it is at this stage that the second method must be used. It requires a great deal of heat to evaporate water. To prove this statement, place about three teaspoonfuls of cold water in an ordinary tin pepper box, and with watch in hand, place it upon the hot stove, noting the number of seconds required to bring it to boiling, and then the time required to evaporate all the water. Between five and seven times the number of seconds required to bring the water to a boil will be found necessary to evaporate the water after it has been raised to the boiling point. This means, of course, if the fire has been steady, that more than five times the amount of heat required to bring water to the boiling point is required to change it into the invisible form. As a matter of fact, it requires about 960 heat units to change a pound of water into the invisible gaseous state, and one heat unit is capable of lifting 772 lbs. one foot high, so that the evaporation of a pound of water, by means of heat from our bodies, requires the withdrawal of an amount of heat from them capable of lifting more than 960x772 lbs. or 370 tons one foot high. Our bodies, then, are cooled by radiation, by conduction

and by evaporation; and a knowledge of how powerful the latter method is should enable us to understand better the danger of sitting down in a draught of air while we are perspiring profusely. Under these conditions we have ceased to generate heat rapidly; but there is moisture enough already on the surface to withdraw a large amount of heat from the body, and as a result the skin is chilled, causing the bloodvessels to contract, thus throwing the blood in excessive quantities into the interior of the body, producing the feverish condition which so often culminates in a cold.

Since the skin has so many and such important functions to perform it should be evident enough that nothing short of scrupulous cleanliness will enable it to do its work most effectively.

THE KIDNEYS.—We have seen that in all the active tissues there is a constant wasting away and rebuilding of their substance, and since nitrogen is the distinctive element entering into the molecules out of which such tissues are built, the waste products from them must contain this element. Now most of the nitrogen from broken down tissues, and also that which may be derived from the direct consumption of proteids used for the production of energy, finds its way out of the body in a compound known by the name urea, and in health nearly all of this substance is removed from the blood by the kidneys; a healthy action of these organs, then, must be very important.

The kidneys are two reddish-brown, bean-shaped glands, situated in the body cavity, and on each side of the backbone, just above the level of hips in the small of the back. They are really two clusters of tubes, each tube being open at one end and having the other end expanded into a spherical bulb. Each bulb has its wall folded or tucked into itself, thus forming a deep cavity in which a branch of the renal artery breaks up into a knot of capillaries, which is thus surrounded by the walls of the capsule; and it is through the walls of these capillaries and the walls of the capsules that the larger portion of the waste removed from the system by the kidneys finds its way into the cavity of the kidneys, and from thence out of the body. The little vein which carries the blood away from the knot of capillaries, again breaks up into capillaries, which are wrapped about the walls of the tube leading away from the capsule, and through these walls a further purification of the blood takes place. The kidney of a sheep or of a pig cut open lengthwise, from front to back, will show the coarse structural features very clearly, though of

course the secreting capsules are too small to be seen by the unaided eye.

Alcohol has its acknowledged bad effects upon the kidneys, as it does upon other important organs. Since alcoholic beverages produce unnatural thirst when consumed, they must necessarily impose, to that extent, an extra burden upon those organs which must remove these materials from the body, and hence upon the kidneys; and there comes ultimately, through the influence of the alcohol, a fibrous degeneration of the tissues, which culminates in one form of that fatal malady known as Bright's disease.

THE SPECIAL SENSES.

There remain for our consideration now those wonderful organs connected with the nervous system, by means of which we become acquainted with things outside ourselves. We were introduced to this subject in a general way when we began the study of the nervous system, but we have now to study the organs by which we taste, smell, feel, see and hear.

STUDY OF THE ORGANS OF TASTE.—OBJECTS OF THE LESSON: To teach that: 1. The organs of taste are located in papillæ situated on the upper surface of the tongue. 2. Substances in order to be tasted must be in the fluid state and brought in contact with the taste papillæ. 3. Many sensations which we ordinarily call tastes are in reality due to odors.

With the aid of a hand glass look carefully at the upper and under surfaces of the tongue. The upper surface will be seen thickly studded with slender elevations, which are called the filiform papillæ, while the under side is without them. These can best be seen by placing the tip of the tongue in the bottom of the mouth and crowding the top forward so as to bend it abruptly, thus causing the papillæ to spread apart. These papillæ on the surface of the cat's tongue are so modified as to be horny, very sharp and curved backward. Between the filiform papillæ will also be seen many red, round-topped bodies, not quite as large as the heads of small pins, which are borne on short, heavy stalks, suggesting the form of a toad stool, and hence called the fungiform papllæ; these, and from seven to twelve much larger ones of the same form, which are surrounded each by a wall, and hence called circumvallate papillæ, contain the organs of taste. The circumvallate papillæ

are situated on the back of the tongue, arranged in the form of a letter V opening forward; they can be readily felt with the tip of the finger. Both kinds of taste papillæ are covered with filiform papillæ, and contain what have been called taste buds. Now hold the tip of the tongue firmly against the roof of the mouth, and with a tooth-pick, having its tip wet, place a little fine sugar or salt upon the under side of the tongue and upon the floor of the mouth. It will be found that so long as the tongue is not moved no sensation of taste willl be experienced. Experimenting similarly with other parts of the mouth and tongue it will be demonstrated that the organs of taste are confined to the top of the tongue. Next wipe the top of the tongue dry and lay upon it a small lump of sugar or salt. It will not be tasted for some time, until fluids have been secreted sufficient to dissolve some of the substance, thus demonstrating that fluids and not solids can be tasted. If we place a copper coin in the mouth it can be tasted, but this is because the fluids of the mouth act chemically upon the metal and produce a substance which dissolves and gives rise to the taste. One function of the filiform papillæ, which cover the tongue, and the taste papillæ, is to act like the bristles of a hair brush, and retain upon the tongue a large quantity of fluids, so as to cover the taste papillæ, in order that the substances to be tasted may be thoroughly brought in contact with them. Now hold the nose firmly, and only breathe through the mouth while you eat a clove, a piece of cinnamon or a bit of onion. On removing the fingers and breathing through the nose it will be observed that what we have been in the habit of regarding as the most characteristic tastes of these substances are really perceived through the sense of smell. If you will blind fold a person and feed him bits of raw turnip and raw cabbage while he holds his nose, and breathes through his mouth only, he will not be able to tell which he is eating unless the turnip possesses that sharp, biting taste. Bad butter is much more disagreeable when eaten on hot cakes or biscuits, because the heat volatilizes that substance to which the bad taste — really smell — is due. It is this confusion also which gives rise to that statement so commonly made, that one thing tastes as another smells·

STUDY OF THE SENSE OF SMELL.—OBJECTS OF THE LESSON: To teach that: 1. The end organs of smell are located in the mucous membrane in the upper portion of each nostril. 2. The turbinated bones furnish broad surfaces upon which the mucous membrane is

spread, 3. Substances, in order to give rise to the sensation of an odor, must be in the gaseous state.

All are familiar with the fact that in order to detect a slight odor we are obliged to sniff the air, and while doing this we become conscious of a cool sensation in the upper portion of the nostrils; which proves that in sniffing we throw the air up into these portions of the nasal chambers, and that the end organs of smell must also be found here. Those who have watched the cat or dog while investigating with their nose know that they sniff the air in the manner we do.

From the outer wall of each nostril there project into the nasal chambers three bony processes, arranged one above another, over which the mucous membrane, with its nerve endings, is spread. It is in the mucous membrane of the two upper turdinated bones that the nervers of smell proper end. In the membrane lining the lower portions of the nostrils nerves of general sensibiility end, which respond to disturbances produced by solids and such suffocating gases as ammonia and those coming from the burning suplher of a match. Gases only, or liquids and solids only after they have been volatilized, can awaken sensations of smell, but it is wounderful how small an amount of matter in this state can be detected by this organ. When a dog follows the tracks of his master along the street where many others have passed, not only must he detect the minute quantity of volatile substances evaporating from the small amount of perspiration which could have passed through the soles of his boots to be left upon the ground, but he must discriminate between the odor characteristic of his master and that characteristic of the other people who may have passed along. Not only this, but he must decide which of his masters tracks are the latest made, in order that he may not go away from rather than toward the object of his search. This sense of smell is, of course, much more sensitive in animals, like the dog, which depend so much upon it, than it is in man; and yet it is extremely senstive with us, as we know from our experience with perfumes.

F. H. King.

RIVER FALLS, WIS.

The bad man is much more deeply and selfishly provoked by another's hypocrisy than the good man.—*Jean Paul Richter.*

THEORY AND PRACTICE.

MANUAL TRAINING IN THE NEW YORK CITY SCHOOLS.

The revised course of study for New York city schools has been adopted and will soon be in actual trial. The additions, as we learn from a reporter, will embrace instruction in carpenter work, or the use of wood-working tools for boys; modeling in clay for boys and girls; construction work in paper, pasteboard and other material, for boys and girls; drawing to the scale, for boys and girls; and sewing and cooking for girls. Time for this is obtained by reducing the hours heretofore devoted to history, geography and arithmetic. History is made a reading instead of a memory exercise. The requirements for arithmetic in the higher grades have been reduced twenty-five per cent. by eliminating, in the main, the study of arithmetical puzzles and confining instruction to practical requirements. The time which it has been customary to devote to geography is considerably shortened.

The primary schools are divided into six grades. In grades five to two, drawing on paper will be added for the purpose of facilitating the cutting of paper into designs, etc. Drawings of various forms will be required in the several grades in addition to modeling in clay, cutting out of paper, etc., in order to render more definite the results obtained.

In the fourth grade, the children are to cut out and construct the forms which they have previously drawn, using thread and wire, paper and pasteboard and scissors. In the first grade is added drawing with brushes and ink, modeling in clay, etc. In the third grade instruction in sewing is begun. In the grammar schools where there are eight grades, the instruction in the eighth grade, where the children range from nine to twelve years of age, consists in paper and pasteboard work of a more advanced character, free-hand and mechanical drawing, modeling, etc. In the seventh grade the modeling is more in detail. In the sixth grade the boys are taught how to use a "jack-knife" effectively. In the fifth grade the boys begin to employ simple tools, and the use of others is taught up to the first grade. They try their 'prentice hands at wood-carving in the third grade. As the pupils rise to higher grades they are taught how to apply the simpler laws of physics and mechanics, and are advanced in carving, modeling, and drawing.

While the boys are taught the use of mechanical tools, the girls are

taught the work of the needle, advancing from stitching, darning and hemming, to cutting and fitting, and from a theoretical to a practical knowledge of cooking. How much the latter will enhance their value as housewives may be inferred from a synopsis of the instruction in the third grade: Materials of the human body; tissue, waste and repair of; how to prepare solid materials for digestion; nutritiveness of different foods; chemical effects of over-heating; effect of heat on different foods; how to discriminate between wholesome and unwholesome food in purchasing; between lamb and mutton; boiling as applied to vegetables; when steaming is desirable; utensils, their preservation and care; effects of iron on tea and coffee; condition of water that has been for hours in a lead pipe; dangers resulting from bad plumbing; practical lessons in cooking, etc. The amount of time to be devoted to manual training, as distinct from other purely scholastic studies, will not exceed in any grade two hours a week. Experts will report from time to time on the progress made and the value of the training. The funds for the purpose of testing the experiment being extremely limited, the present intention is to engage only three extra teachers—one for carpentry, another for cooking, and a third for sewing. The regular teachers of the board will do, as far as they can, whatever else is necessary.—*New York School Journal.*

EXAMINATIONS AND PROMOTIONS.

[From the annual report of E. E. White, Superintendent of the Cincinnati schools.]

The successive annual reports of this department for twenty years or more contain evidence that the so-called "examination system" has been one of the most serious evils that have beset the supervision of the Cincinnati schools. Successive superintendents have each tried to lessen the evils of the system, and especially to free the instruction of the schools from its narrowimg and mechanical influence, and yet, in spite of their praise-worthy efforts, the system increasingly permeated and possessed the schools. This attempt to relieve the situation by freeing certain branches from the prescribed examinations only served to intensify the pressure on the "percented branches."

In considering, from a wider survey, the evils resulting from stated written examinations when used to determine the promotion and

classification of pupils and to compare schools and teachers, I once used these words:

"They have perverted the best efforts of teachers, and narrowed and grooved their instruction; they have occasioned and made well-nigh imperative the use of mechanical and rote methods of teaching; they have occasioned cramming and the most vicious habits of study; they have caused much of the overpressure charged upon the schools, some of which is real; they have tempted both teachers and pupils to dishonesty; and, last but not least, they have permitted a mechanical method of school supervision.

"It is not asserted that these results, especially in the degree here indicated, have universally attended the adoption of the 'examination system.' These tendencies have been more or less effectively resisted by superintendents and teachers, and they have been measurably offset, in some instances, by other measures, as the considering of the recitation record of pupils; but the testimony of educators competent to speak confirms the writer's experience and observation, and inside facts show that the above indictment of the system, when used for the purposes named, is substantially true. In the very nature of things the coming examination with such consequences must largely determine the character of the prior teaching and study. Few teachers can resist such an influence, and, in spite of it, teach according to their better knowledge and judgment. They can not feel free, if they would. The coming ordeal fetters them more or less, whatever may be their resolutions, and many teachers submit to it without resistance; and this is sometimes true of teachers who have been specially trained in normal schools, and are conscious of the power to do much better work. They shut their eyes to the needs of the pupil and put their strength into what will 'count' in the examination."

On visiting the schools, I found on every hand these unfavorable influences of the system, and all efforts to secure the adoption of more natural and rational methods of teaching ran directly against this examination wall. I soon became convinced that no satisfactory change in school instruction could be effected while this hindrance was in the way, and the only remedy that promised relief was a radical one—*the disuse of stated written examinations to determine the fitness of pupils for promotion.* But this involved the devising of another method as a substitute, one that would afford relief and, at the same time, secure

that degree of uniformity of attainment essential to the proper classification of pupils. The disposition to make a change was enhanced by the discovered fact that the examination system was failing to secure this result—the one specially sought to be attained by it. It was found on inquiry that the lower third of the pupils admitted to the high schools in September, 1886, were in attainment more than a year below the pupils in the upper third of the class, and a like difference in attainments was found in the classes in the intermediate schools. The very thing that the "percented examinations" were failing to secure, was needed uniformity of attainment.

A careful consideration of the experience of other cities and the conditions of school administration in Cincinnati resulted in the adoption of the plan of promoting pupils embodied in the regulations appended to the course of study in this report. It will be seen that the plan provides for the promotion of pupils on the judgment of teachers, approved by the principals, but not on a single judgment formed at the end of the year. Estimates of the pupils' fidelity and success in school work are made and recorded *monthly*, and these monthly estimates are averaged twice à year—in February and in June. The pupils' standing in each branch at the close of the year is the average of ten separate recorded judgments. These monthly estimates are made without the daily marking of recitations (to which, especially in elementary schools, there are serious objections) and without the use of monthly or other stated examination. The test, oral and written, is made an element of teaching.

It is too early to claim complete success for the new system or to determine its influence on school work. It was only used the last five months of the school year, and necessarily with the disadvantage of being administered by a body of teachers long accustomed to the examination regime and wholly untrained in the new plan. Moreover, the standing of the pupils the first five months of the year had been determined by two written examinations—one in November and one in February—and so the record on which the pupils were promoted included the semi-yearly results of the two systems.

The following facts may, however, be stated as suggestive and interesting, if not conclusive:

1. An examination of the records in the different grades showed that the teachers' estimates the last five months of the year more fairly repre-

sented the proficiency of the pupils and their fitness for promotion, than the recorded examination results of the first five months.

2. The reliability of the teachers' estimates was further shown by the examination of non promoted pupils. Under the rules, if a parent is dissatisfied with the non promotion of his child, such child's fitness for promotion is, on the application of the parent, to be determined by a written examination, the result being considered as additional evidence. Printed blanks for these applications with full instructions, were sent with the notices of non-promotion, and, in many instances, the teachers advised pupils to try the written examination. As a result, a considerable number of the non-promoted pupils in the different grades applied for examination. In the A and D grades, whose pupils are promoted by the superintendent, 220 pupils applied for examination—40 in A grade and 180 in D grade. The A grade pupils took the same examination as the pupils from suburban and private schools, who were applicants for admission to the high schools. The questions for the D grade were prepared under my supervision and were fair tests for pupils of this grade; the papers were read and marked by intermediate teachers. *Only one of these pupils reached an average of seventy per cent.*, the former standard of promotion, and a re-examination of the estimates recorded by her teacher showed that a mistake had been made in her non-promotion! A few of the pupils examined reached an average of near sixty per cent., and they stood equally well in the monthly record. On inquiry, it was found that the examinations conducted by the principals bore similar testimony. With few exceptions, all the pupils who applied for examination, failed to pass. It is thus seen that the examinations attested the reliability of the judgment of the teachers, as expressed in their recorded estimates.

3. A comparison of the number of pupils promoted this year with the number promoted in previous years shows the promotion of fewer pupils under the new system than under the old, and this justifies the presumption that fewer unqualified pupils were promoted. It is believed that the pupils in the schools have not been better classified for years, to say the least, than they are the present year. It seems proper to add that the complete success of the system requires close and intelligent supervison.

An impression seems to prevail that written examinations have been wholly dispensed with in the Cincinnati school. This is an error. The

written test is no longer made *the basis for the promotion of pupils*, and it no longer occurs at stated times, but it is continued as an element of teaching, where its uses are many and important. It is now distributed throughout the year and comes without previous notice.

EDITORIAL.

THE winter session of the Wisconsin Teachers' Association, a report of which appeared in our last number, was characterized by the practical character of the papers and discussions. The topics were timely, and the speakers for the most part felt the close relation of what they said to present practices. It may be claimed that no result came from some, as for instance the report on the elimination of unprofitable work in the curriculum of the graded schools; but this is not quite a fair statement of the case. That unprofitable work is going on seemed to be generally admitted; the committee indicated certain lines in which they considered curtailment desirable; difference of opinion arose, as was to be expected, and the report was ordered printed and further discussion deferred until the next meeting, This result seems to us practical. The purpose of the Association is not to legislate, and the adoption of a report often means nothing more than that the subject has ceased to be interesting. The report is therefore adopted and forgotten. Now the Association serves its proper end when it secures interchange of opinion upon important matters, and this facilitates the growth of common convictions, which at length modify practice. The subject is practical; what is needed is not the adoption of a formula about it, but discussion, thought, experimentation. In the New York City schools considerable curtailment in most of the subjects indicated by the committee has been made to introduce more manual training. Arithmetic has been cut down in the Boston schools. Geography has been materially shortened in the model rooms of some of our Normal Schools. Language work is occupying much less time in many city schools than it did a few years since. The practical result, so far as the Association is concerned, is to secure thought and discussion on the subject, and this seems to have been attained. The habit of looking upon Associations as legislative bodies, whose bussiness it is to formulate resolutions and make laws, is an unfortunate one.

ELSEWHERE, under "A Reader's Notes," we publish some curious observations on the mis-spelling of school children. The writer thinks that some of them, at least, may be due to a physical defect, which he calls "sound-blindness." Whether such defect exists, and is a cause of mis-spelling, is an interesting inquiry, for investigating which, in a scientific manner, school teachers have excellent opportunities. But it is at once apparent that this cause will not account for all the mis-spellings, and to acconnt for the rest is a problem quite as

interesting. An inspection of the list will reveal at least two kinds of errors. In the first the child discriminates the sounds correctly but errs in his manner of representing it. *Capperble* is an example of this sort. The defect is clearly due to the perplexing uncertainties of English orthography, which represents the same sound by several different combinations of letters. On the other hand, a great many of the mis-spellings indicate very clearly that the pupil has failed to discriminate the sounds in the word given out. He does not even know the number of syllables in it. It has, as a whole, made a certain impression upon him, but this is quite too vague to be analyzed into its parts, and he accordingly makes a plunge at it, hit or miss. To catch a new word, such as Epaminondas, so as to discern tolerably the different sounds entering into it, implies a quick and discriminating use of the sense of hearing. Some children reveal in their daily speech how imperfectly they discern the sounds of words; since they utter familiar ones defectively, and make strange and amusing blunders in their efforts to use new words. As they are usually able to overcome the defect we may assume that it is not physical but mental—a defect in discriminating attention. It would seem that where such defect exists the first aim of wise teaching should be to remedy it, by devising exercises calling for discriminating attention, by demanding perfect enunciation, and by dwelling upon differences until they are fully mastered. The ordinary spelling lesson is directed to meeting tbe first class of errors rather than the second.

University extension is the phrase used in England to describe an interesting movement to make the great Universities contribute more directly to the general culture of the people. The plan consists in sending one or more professors of the Uuiversities to different cities, which apply for instruction and make the necessary arrangements for it, to deliver a course of lectures upon specified topics and aid and direct the studies of those who wish read on the subjects. In this way the old institutions are breaking loose from the exclusive traditions of the past, and taken an active part in general cultivation. In this state a movement like in character but somewhat different in form is going on. The farmers' institutes, which are very largely attended and productive of much interest, are under the direction of the State University. The agricultural department is in this way exerting a very decided influence in various parts of the state. In a similar way the connection of the University with the teachers' institutes tends to bring it into closer relations with teachers in all portions of the state. The summer school in a different way serves the same end—to send abroad all over the state the methods and views which prevail at this center. It seems not unlikely that the new methods of work this struck out may in time give rise to similar developments in other lines. It is a most satisfactory sign of the times that the Universities are this broadening their views of their own mission. They no longer exist to give a specified training to the few who may be able to gather within their walls. To this function, and the other of original investigation which they ought always to promote, they are now adding that of direct labor for the general dissemination of knowledge and for the growth of general culture.

OUR DRAWER.

READING CIRCLE MATTERS.

WORK FOR THE FIFTH MONTH.

ELEMENTARY. PAGE—pages 230 to 279. HISTORY—pages 153 to 183. PHYSIOLOGY—Chapters 12 and 13.

ADVANCED I. QUICK—to page 167. FITCH—Lecture VI. POLITICS—chapters XXV. to XXVIII. HISTORY—page 480 to 520.

ADVANCED II. SULLY—chapters IX. and X. BROOKE—to page 118. SWINTON—to page 288.

A READER'S NOTES.

THE BLIND AS LEARNERS.—A blind man, writing for the *Century* magazine, advises that blind children be sent to the public schools instead of to special institutions. Competition with seeing children, he thinks, stimulates them to higher attainments than they make when competing only with the blind; and they are better fitted for life by growing up in the midst of seeing children. What he says of the memory of the blind is especially interesting and suggestive. The blind person's "memory, accustomed to seize and assimilate facts, definitions, and miscellaneous information at a single hearing, acquires both a marvelous alertness and phenomenal retentive capacity, which enable him to master certain branches of study with singular ease and rapidity. Deprived of books, and without any very ready and reliable methods of making notes, he obtains a habit, often envied by the seeing, of appropriating instantaneously anything addressed to his intellect through his hearing. Hence the proverbially good memory of the blind person. His mind is his memorandum book, always at hand and always open. * * So marked is the advantage of the blind in this respect as almost to atone for this extra difficulty in others; that is, the sightless pupil will acquire scientific and philosophical studies with a rapidity which will counterbalance the greater amount of time demanded by his less facile methods of writing out exercises in linguistics and ciphering in mathematical branches. Of not less value in after life is this extraordinarily trained and developed memory. It enables the blind to derive from lectures, conversation and general reading, ten times the benefit of others, on whose minds a single mention of facts and thoughts makes little or no impression."

SOUND BLINDNESS.—This very awkward designation is used by a writer in the London *Journal of Education* to denote a defect in hearing which he thinks common, and deserving of the attention of teachers. He was led to study it by discovering that a boy nine years of age, in writing down a line of poetry

which he had learned, spelled the word *very*, *voght*. "On trying a few experiments, I found that he could hear no difference between *very*, *perry* and *jolly*—and yet the child was not deaf." On inquiry of teachers he found that similar cases were common. "Pursuing my investigations further, I heard a class of young boys read, and was at once struck by the fact that some of them would give me, instead of a word, its synonym, though of different sound; for instance, instead of *girl*, *maiden*. The boys who were most apt to do this were the boys whose power of hearing was already under suspicion, and I inferred that they associated the printed letters not with their sound, but with the concrete thing which they represented, much as if they had been a picture. Further, I had observed that a boy of eleven, who is a very bad speller, most often when writing from dictation, went wrong over words which have an *r* or an *l* in them. This boy cannot himself pronounce these letters; and I think it is at least an open question whether his failure in pronunciation is not due to a defect of ear quite as much as to a defect of tongue or palate, though he is by no means deaf. Here are examples of his spelling: *Sundry rents* appears as *sunderelents; complicated*, *compreated; lacerations*, *laserlacions*."

He tried an experiment with a class of eleven boys, all over ten years of age and good readers, dictating to them first some short words, which nearly all wrote correctly, and then words probably new to them and designed to test their power of hearing. Here are the variations of the five words:

	different	capable	ultramarine	spectroscope	Epaminondas
1.	dirfr*ea*nt	capbul	ultr*e*mean	sp*a*ccrow	*a*pnonas
2.	different		ultramarine	specorourscope	aparmondas
3.	dif*e*rent	capeperbul	altrermerine	speckshow	aponedondas
4.	dif*e*rrent	capperble	altrermerein	speckros-cop	achappynomeen
5.	dif*e*r*a*nt	cam*e*ble	olt*r*emer	spkerrope	*a*ppanandex
6.	drifrent	capable	untummerrein	specteroskop	cupameondeous
7.	diffrent	capabybely	ultriean	spesptrocope	emeandass
8.	drifent	capebibel	ultrenn	speetuscope	epermondes
9.	different	capebale	ultermeriem	specktrocope	apporymondas
10.	differ*a*nt	ackable	ult*o*marien	spreting	*a*panenondes
11.	differint	caperble	ultrumeree	spatroscope	appongamanges

He thinks that some of the mis-spelling arise from a want of experience in representing sounds by letters; but many of them, especially those of the vowel sounds and in the liquids, he believes to be due to defective hearing—a defect similar to that of color blindness in the eye, which makes the person unable to discriminate certain sounds. "Supposing that in correcting the mis-spellings, we find that one or two subjects cannot recognize a word after the correct spelling has been shown them, while others have no difficulty, we must conclude that the ear is at fault, in the one or two; and if we find that the same individuals can recognize some sounds and not others, then the phenomenon of sound-blindness is established, and we have a satisfactory reason for the fact that some persons seem to spell naturally, while others never learn." The suggestion is an interesting one, and opens a good field of investigation for teachers.

EXAMINATIONS FOR STATE CERTIFICATES.

ARITHMETIC.

December, 1886.

1. How would you teach a child the first principles of Aritmetic?

2. Divide 5-6 by 7-8 and explain the usual rule.

3. (*a*) Analyze the reduction of 4-5 to thirds. (*b*) Reduce 3-5 to a fraction whose numerator shall be 8, and state the principle involved.

4. I invest and sell at a loss of 15 per cent.; I invest the proceeds again and sell at a gain of 15 per cent.; do I gain or lose on the two investments, and how many per cent.?

5. The sum of two numbers is 120, and their differance is equal to $\frac{1}{3}$ of the greater. Find the numbers. Indicate analysis.

6. A man bought a farm for $6,000, and agreed to pay principal and interest in three equal annual installments. What was the annual payment, interest being 6 per cent.? Express solution.

7. What is the cube root of .27?

8. Write a promissory note dated September 24, 1884, for $480.75, bearing 8 per cent. interest. Calculate the interest to to-day.

9. If 24 men in 189 days, working 10 hours a day, dig a trench $33\frac{3}{4}$ yards long, $2\frac{2}{3}$ yards deep, and $5\frac{1}{4}$ yards wide; how many hours a day must 217 men work, to dig a trench $23\frac{1}{4}$ yards longs, $2\frac{1}{3}$ yards deep, and $3\frac{2}{3}$ yards wide, in $5\frac{1}{2}$ days?

10. Which will yield the better income, 8 per cent. bonds at 110, or 5's at 75?

June, 1887.

1. In what processes is the idea of scale employed?

2. If 20,000 feet of lumber will enclose a quarter section of land, how many feet will be required to enclose an entire section?

3. Select an example and explain the common rule for the division of a fraction by a fraction.

4. Divide .00144 by 1.2, and give your method of explaining the position of the decimal point in the quotient.

5. The longitude of Boston is 71° 4′ 9″ west, and when it is 10 o'clock A. M. in Boston, it is 8 o'clock, 53mi. 57 3-5 sec. in Chicago. Find the longitude of Chicago.

6. What per cent. shall I receive on an investment in stocks at 85, which pays a semi-annual dividend of 4 per cent., reckoning money worth 10 per cent. annual interest?

7. Write a note due in 90 days, dated June 30, 1887, and signed by John Smith, on which William White can obain $850 at a bank, the bank discounting at 8 per cent.

8. If 6 men in 16 days of 12 hours each, build a wall 15 feet long, 8 feet high and three feet thick, how many men will be required to build a wall 45 feet long, 9 feet high and 6 feet thick, in 24 days of 9 hours each?

9. A note was given September 8, 1882, for eight hundred and forty dollars, with interest at seven per cent. On the note were the following endorsements: October 1, 1883, $44.56; November 20, 1883, $100.00; May 8, 1885, $495.75. How much is due December 29, 1885?

10. What must be one of the equal annual payments which will discharge a 7 per cent. note for $500 in three years?

December, 1887.

1. Reduce to simplest form: $\frac{3\ 1\text{-}9 + 2\ 5\text{-}6}{3\ 1\text{-}9 - 2\ 5\text{-}6} + \frac{3\frac{1}{2} \times 3\ 1\text{-}7}{3\frac{1}{2} \div 7\text{-}11} - \frac{9\frac{1}{3}}{7}$

2. Reduce 5-7 to an equivalent fraction whose denominator is 29, giving analysis.

3. $\overline{.714 - .714} \div \overline{(.34 - .034} \times .25 \text{ of } 6) = ?$

4. Make a bill for lumber bought by A. D. Wilcox & Co., of Geo. Mason & Co., of St. Paul, December 20, 1887, as follows: 124 boards, 10 inches by 16 feet at $15.00 per M.; 120 boards, 16 inches by 14 feet at $16.50 per M.; 40 planks 2½ x 12 in. by 15 feet at $18.75 per M.; 96 joists, 3 x 10 in. by 18 feet at $14.00 per M.; 60 scantling, 3 x 4 in. by 12 feet at $12.50 per M. What is the amount?

5. If a grocer's gallon measure is too small by 1 gi., what does he make dishonestly in selling 2 hhd. of molasses, averaging 58 gal. 2 qt. 1 pt. each, worth $.80 a gallon.

6. If a piece of silk cost $1.20 a yard, at what price must it be marked that it may be sold at 10 per cent. less than the marked price, and still make a profit of 20 per cent.

7. A man borrows $10.000 in Boston at 6 per cent. reckoning 360 days to the year, and lends it in Wisconsin at 8 per cent. reckoning 365 days to the year. What will be his gain in 146 days?

8. Extract the cube root of .64. What explanation do you employ?

9. From a section of land purchased from the U. S. Government at $1.25 an acre, a man sold the S. ½ of the S. W. ¼ at $2.50 an acre; the N. E. ¼ of N. W. ¼ at $1.75 an acre; the W. ½ of the S. E. ¼ at $2 an acre; and the W. ½ of the S. W. ¼ of the N. E. ¼ at $3 an acre. How many acres has he remaining, and what is his gain, provided the remainder is sold at $2.25 an acre? Draw diagram and explain.

10. The hour and minute hands of a clock are together at 12 M. When will they be exactly together the third time after this? Analyze.

ALGEBRA.

December, 1886.

1. Factor: $a^4 - 4a^3c + 6a^2c^2 - 4ac^3 + c^4$; and $3x^3 - 2x^2y - 27xy^2 + 18y^3$.

2. Simplify: $\dfrac{\dfrac{m^2 + n^2}{n} - m}{\dfrac{1}{n} - \dfrac{1}{m}} \times \dfrac{m^2 - n^2}{m^3 + n^3}$; and $\dfrac{a}{b + \dfrac{c}{d + \dfrac{m}{n}}}$

3. Divide $\frac{x^2}{y^2} + \frac{1}{x}$ by $\frac{x}{y^2} - \frac{1}{y} + \frac{1}{x}$.

4. Solve the equation $(x - a)(x - b) = (x - a - b)^2$.

5. A boy who runs at the rate of 12 yards per second starts 20 yards behind another whose rate is 10½ yards per second. How soon will the first boy be 10 yards ahead of the second?

6. If the sides of a rectangulular field were each increased by two yards the area would be increased by 220 square yards; if the length were increased and the breadth were diminished each by five yards the area would be diminished by 185 square yards. What is the area?

7. Find the square root of $16x^6 + 10x^2 + 1 - 24x^5 + 25x^4 - 20x^3 - 4x$.

8. A detachment from an army was marching in regular column with five men more in depth than in front. On approaching the enemy the front was increased by 845 men, and the whole number was thus drawn up in five lines. Find the number of men.

9. The sum of two numbers which are formed by the same two digits in reverse order is 55-18ths of their difference; and the difference of the squares of the numbers is 3960. Determine the numbers.

10. Solve: $\sqrt{25 + x} + \sqrt{25 - x} = 8$. Also, $\frac{3x - 1}{\sqrt{3x + 1}} = 1 + \frac{1}{2}\left(\sqrt{3x} - 1\right)$

June, 1887.

1. Simplify $\frac{1}{2x^2 y} - \frac{1}{6y^2 z} - \frac{1}{1xz^2} + \frac{2x - z}{4x^2 z^2} + \frac{y - 2z}{4x^2 y^2}$.

2. Solve $\frac{4}{x + 2} + \frac{7}{x + 3} = \frac{37}{x^2 + 5x + 6}$.

3. The length of a floor exceeds the breadth by 4 feet; if each dimension were increased by 1 foot the area of the room would be 27 sq. ft. Find the dimensions.

4. A number is expressed by three digits. The sum of the digits is 9; the number is equal to forty-two times the sum of the first and second digits; and the third digit is twice the sum of the other two. Find the number.

5. Divide a line 20 inches long into two parts so that the rectangle contained by the whole and one part may be equal to the square of the other part.

6. Solve $x^3 + y^3 = 18xy$.

$x + y = 12$.

7. The hypothenuse of a right angled triangle is 20, and the area of the triangle is 96. Determine the sides.

8. Solve $\sqrt{x + 15} + \sqrt{x} = 15$.

9. Solve $5x - 7x^2 - 8\sqrt{7x^2 - 5x + 1} = 8$.

10. Solve $2x^2 - 2\sqrt{2x^2 - 5x} = 5(x + 3)$.

December, 1887.

(Put on your paper all work necessary to get results.)

1. Where in a course of study should Algebra be introduced, and for what purpose? Discuss the relation of Algebra to Arithmetic.

2. Define algebra, binomial, homogeneous, exponent, surd, equation. Illustrate feely, using literal quantities only.

3. Find L. C. M. of $x^3 - 7x - 6$ and $x^3 - 9 + x^2 - 9x$.

Find value of $\frac{4}{(a-b)(a-c)} - \frac{1}{(b-a)(b-c)} + \frac{1}{(c-a)(c-b)}$.

4. Solve this equation: $\frac{1}{x-4} - \frac{1}{x-3} = \frac{1}{x-2} - \frac{1}{x-1}$.

State what fundamental operations are used, how each is used, and give the axiom justifying the operation.

5. A boat's crew rows 3½ miles down stream and back again in an hour and forty minutes. If the river has a current of two miles per hour, at what rate would the crew row in still water?

6. Determine x, from these simultaneous equations: $cy + bz = a$, $az + cx = b$, $bx + ay = c$. Use any method of elimination but once.

7. A and B can build a wall in ten days; after they have worked four days, A is taken sick, and B finishes the wall in three days more than A would need to do the whole. How long would each alone require? Interpret both sets of answers.

8. If $a : c = m : n$, prove that $2a - 3b : 4a + b = 2m - 3n : 4m + n$.

9. Affect the square of $\frac{1}{a+b}$ with the exponent $-\frac{3}{2}$ and expand the resulting quantity. Justify each step.

10. Write first three terms of $(a \pm b)^n$. Apply the formula to $(a^2 - 3c)^7$.

MATHEMATICAL SECTION.

(Correspondence relating to this section should be addressed to Prof. T. B. Pray, Whitewater.)

NOTES ON PROBLEMS.

The following solution of the Algebraic problem discussed in the last issue of the JOURNAL, has been received from T. B. Hartley, of Hudson. As an illustration of the utility of *proportion* as a means of resolving troublesome quadratic equations, we think it will prove of interest to the readers of this column.

Given $\sqrt{x} - \sqrt{y} = \sqrt{x}(\sqrt{x} + \sqrt{y})$ (1)

and $(x+y)^2 = 2(x-y)^2$ (2)

From (2) $1 : 2 = (x-y)^2 : (x+y)^2$ (3)

sq. rt. $\pm 1 : \sqrt{2} = x - y : x + y$ (4)

Composition $\pm 1 \pm \sqrt{2} : \pm 1 \mp \sqrt{2} = 2x : -2y$ (5)

Rationalization $\pm 1 \pm \sqrt{2} : -1 = x : -y$ (6)

Whence $x = (3 \pm 2\sqrt{2})y$ (7)

(Using *double sign* in third and fourth terms of (4) gives

$$y = (5 \pm 2\sqrt{2})x \quad (8)$$

By substitution, in (1), the usual results may be obtained.

[Prof. Pray sends a solution of the geometrical problem in the January number, but we have to defer publishing it in order to procure a cut for figure involved.—ED. JOURNAL.]

PROBLEMS.

Who will send simplest and best answers to the following?

A owes B $1,000, which he will pay in equal annual installments of $200, besides paying the accrued interest at the end of each year at six per cent. B sells the obligation to C, who must have interest at end of each year at eight per cent. per annum, on all money due him at beginning of the year. What does C pay B? B.

Can a satisfactory explanation be given of the following apparent paradox?

$$\frac{1}{1-x} = 1 + x + x^2 + x^3 + x^4 + x^5 \text{ etc.}$$

If $x = 2$,

$$-1 = 1 + 2 + 4 + 8 + 16 \text{ etc.}$$

E. M. W., Baldwin, Kan.

In July last, the *New England Journal of Education* published some fourteen different proofs of the proposition relating to squares on the sides of a right triangle; and we have known a single college class to produce in the recitation room twice as many forms of proof more or less distinct from each other. The editor of the above journal has been assured by good authority, that some *fifty* proofs are possible, and that a fairly complete collection may be made asks that any one knowing a proof out of the ordinary line, send it to him before March 22. It is to be hoped that all interested in thus illustrating the variety of resources available in elementary geometry will contribute, no matter how little, to the success of the undertaking.

T. B. PRAY.

WHITEWATER, WIS.

IN THE SCHOOL ROOM.

WORDS FOR THE WORKERS.

IF modern education has any distinguishing principle it is that its business is to train, enlarge, and invigorate the man in all the parts of him, the integral

sum of his faculties. It will be a step forward when it is fairly acknowledged that even with the knowing or understanding faculty the foremost object is to perfect it as an instrument for service, rather than to stimulate or stock it as a recipient of information.—*F. D. Huntington.*

THE teacher's main work in the upper grammar and high school grade is to prepare the student through life to be influenced by the best thoughts in conversation and in print. The education largely comes out of school and after school-life, but the school determines what and how outside influences are received.—*Journal of Education.*

"YOUTH is but the painted shell within which, continually growing, lives that wondrous thing the spirit of a man, biding its moment of apparition, earlier in some than in others. * * * * They to whom a boy comes asking, Who am I, and what am I to be? have need of ever so much care. Each word in answer may prove to the after-life what each finger-touch of the artist is to the clay he is modeling."—*Gen. Lew Wallace in Ben-Hur.*

THE best teacher never ceases to be a student. She not only keeps herself familiar with the subjects which she teaches and the latest contributions of thought concerning them, but she also constantly studies the best mode of teaching them. Without becoming an empiric, she examines each new method of instruction, and endeavors to extract from it whatever will enrich or improve her work. But she does not become the slave of one inflexible method.—*Supt. Bradley.*

READING MASTERPIECES.

A GRAMMAR master who goes into one of the rooms of his building and reads "Snow Bound," or "Tent on the Beach" in its season, reading it entire, does more to give the class an appreciation of poetry, country scenery, the art of reading, and the art of listening, than any amount of talking would do. We now have the reading done in a fragmentary style. There must be a reaction. The teacher or the master must read for fifteen or forty-five minutes, must hold the attention of the class. From this reading conversation exercises may be secured, and the best of composition writing. There are many masters, and some superintendents, who are doing this.—*N. E. Journal of Education.*

THERE is nothing like a master-piece of literature on which to sharpen the wits of a dull boy or girl. One of the best school principals I have ever met, once said to me, "If I had a stupid pupil whom I wished to brighten up I would do nothing during the first six months but entertain him with interesting reading." People who try to develop reason in a child before developing imagination begin at the wrong end. A child must imagine a thing before he can reason about it. The child who has had his powers of imagination opened up through Pilgrim's Progress is much better fitted to attack "Longitude and Time" or "Relative Pronouns" than the boy who has been kept stupidly at work committing text to memory or reducing common fractions to circulating

decimals. The dullest boy in mathematics that I ever knew, the boy who declared he was tired of life because there was so much arithmetic in it, and persistently read Burns and Shakespeare, soon mastered arithmetic when it became necessary in order that he might accept a position as teacher in a high school. People will always learn arithmetic as fast as necessity compels them if they know how to read. I wish I might reverse the order and say that a child brought up on cube and square roots thereby attained the power to master the great thoughts which lie in poetry and science. An artist can draw all the curves and straight lines used by the mechanic with no trouble whatever because it is a matter of rules and rulers. But the mechanic who applies his rules and rulers to the creations of the artist only succeeds in making a fool of himself.—*Mary E. Bert.*

OUR BOOK TABLE.

—ANDREWS' MANUAL OF THE CONSTITUTION, (Van Antwerp, Bragg & Co.; $1.17) has recently undergone a fresh revision, bringing it up to the present time by embodying the results of recent legislation. Some other changes will attract notice. Portions of the text are printed in smaller type, thus indicating what may be omitted when time prevents the use of the whole work; and marginal headings have been introduced which greatly facilitate reference. The book has few equals as a text on this subject, and is so well known that it is needless to indicate its merits.

—WORK WITH WORDS, by W. S. Johnson and J. N. Humphrey, (published by J. N. Humphrey, Whitewater, Wis.) grew out of the necessities of the classroom, and solves a difficulty which most teachers of Word Analysis have experienced. This subject does not admit of the organic unity which comes out of the development of related principles, such as appears in text books on natural science. It is rather, as ordinarily presented, a miscellaneous collection of facts to be memorized, and therefore forbidding to the student and for the most part quickly forgotten. The authors have overcome this difficulty by making the student an investigator. Instead of putting him to learning a list of derivatives they give him a root, or prefixes and suffixes, and set him to finding examples of use from the dictionary, and so making his own lists. The book provides models and blanks for the exercises, and teaches the value of Word Analysis by making the pupil use it in determining the meanings of words and making or finding others. The work has made its ways on its merits, and is now used in the Normal Schools of this state, Minnesota and Iowa, and in some of our chief cities. Teachers who examine it will at once perceive its advantages over the ordinary texts on this subject.

—In the *Riverside Literature Series* two new issues have come to our table. One is an extra number, PORTRAITS AND BIOGRAPHICAL SKETCHES OF TWENTY AMERICAN AUTHORS. They are the *Atlantic* authors, and the short sketches—

about two pages in length each—are well done and furnish the kind of information most in demand for "Authors' Days." The other presents Dr. Holmes as a prose writer. The pieces chosen are MY HUNT AFTER THE CAPTAIN, which gives title to the volume, The Physiology of Walking, and Great Trees. These are prefaced by a readable account of Dr. Holmes' Prose Writings. The book is admirably adapted to supplementary reading—Each 15 cts. (Houghton Mifflin & Co.; Boston.)

—AN OLD ENGLISH GRAMMAR, by Edward Sievers, translated by Albert S. Cook, (Ginn & Co.; 273 pp,) appears in a second enlarged edition, revised and improved. The work translated shows all the patient thoroughness of German scholarship, and the translator has adapted the book to American minds and added useful indexes.

—FOURTH NATURAL HISTORY READER, by Rev. J. G. Wood, (Boston School Supply Co.;) is adapted to the grade indicated by the title, and presents, in somewhat systematic form, a view of the chief families of vertebrates. It is abundantly illustrated and is well adapted to be used in teaching children in oral lessons, as well as in a reading class.

—EASY PROBLEMS FOR YOUNG THINKERS, by Seymour Eaton (The Supplement Co.; Boston 25 cts.) contains a large number of problems in Arithmetic, mostly origirial, adapted to pupils of a grammar grade.

—HOLMES' NEW SERIES OF DRAWING BOOKS for schools and amateurs, (C. M. Barnes, 75 and 77 Wabash Av., Chicago,) consists of three books, each containing eight pages of plates and eight blank pages for drawing. No. 1 contains Linear Drawing, clear and shaded; No. 2, natural objects and perspective; and No. 3 flowers and fruits. The course is progressive, much fuller than the number of books would indicate, and practical. We commend it to the attention of teachers.

—WASHINGTON AND HIS COUNTRY, being Irving's Life of Washington, abridged for the use of schools, by John Fisk, (Ginn & Co.; 619 pp. $1.00) is the latest issue in the "Classics for children" series. Mr. Fiske has prepared a brief and vigorous sketch of the history of the country up to the time of Washington, as an introduction, and appended an outline of the history since his death, both in such a way as to bring out the significance of Washington's career. Besides abridging Irving's narrative, Prof. Fiske has occasionally, but sparingly, introduced statements and modifications in view of results reached since the original was written. It is an interesting and admirable book, a model of style, and combines most happily the attractions and value of a history and a biography.

—A PRACTICAL COURSE IN QUALITATIVE ANALYSIS, by J. W. Simmons, (Chicago, John C. Buckbee & Co.; 88 pp.; 60 c.;) is a laboratory and class room manual, arranged most skillfully for guiding the practice of the young student and containing just such help and hints as he needs. Teachers will find it exceedingly serviceable.

—INTERMEDIATE FRIDAYS, (160 pp.; 36c.) and GRAMMAR SCHOOL FRIDAYS (182 pp., 35c.) are selections in prose and verse, published by the Interstate Publishing Co., Chicago and Boston. The first, consisting chiefly of poems and dialogues, is bright, refining and wholesome. The second, for more advanced pupils, contains selections from some of the foremost living authors, and seems deserving of high praise for the excellence and fitness of its pieces.

—HOW TO TEACH VOCAL MUSIC, by Alfred Andrews (Fowler, Wells & Co., New York; paper 50c.), is designed to assist the regular class teacher who is required to teach the rudiments of vocal music. It lays out a systematic course of instruction, and tells in detail how each part of it is to be taught. The author has had twenty-five years' experience as a music teacher.

—THE PRACTICAL QUESTION BOOK; six thousand questions and answers, by Lamont Stilwell, (Educational Publishing Co., Boston; 400 pp.; $1.50), claims to contain the best definitions and classifications that can be selected from nearly all the leading text-books, systematically arranged. It treats almost all the branches of common school education, and contains, withal, a useful list of the bocks from which its material has been gleaned.

—A NEW PART SONG AND CHORUS BOOK, for high schools, academies, choral societies and families, by Charles E. Whiting (D. C. Heath & Co.; 256 pp.) contains a great variety of part songs, anthems, choruses, and hymn tunes, of various grades of difficulty, many original and many selected from German, English and American composers.

—PLANETARY AND STELLAR WORLDS, by Gen. O. M. Mitchell, (183 pp.; paper 15c.), one of the most brilliant and interesting expositions of popular astronomy ever prepared by its talented author, is now issued complete, and so cheap as to place it within the reach of all, by John B. Alden, 393 Pearl street, New York.

MAGAZINES AND PAMPHLETS.

—A long poem by James Russell Lowell, entitled "Endymion," will at once arrest attention in the February *Atlantic*. It is full of vigor and beauty. Yone Santo is even more attractive than in the first installment; and Craddock's "Despot of Broomsedge Cove" is characteristically entertaining. The critical articles on George Meredith, The Medea of Euripides, and Madame Necker, are excellent.

In *Harper's* Senator Edmunds' article on the tariff, for protection, is more solid and argumentative than Mr. Watterson's on the other side. Socialism in London is very timely and instructive; while such illustrated articles as "Hyderabad and Golconda," "Quebec," and "A Little Swiss Sojourn" are wonderfully attractive.

—*Scribner's Magazine* is always a marvel of excellence, not inferior to the more expensive monthlies in matter or illustrations. The February number contains The Man at Arms, First Harvests, Natural Selection, Volcanoes,

What the Will Effect, and a variety of other valuable articles. The magazine well deserves the favor it has won.

—The *Proceedings of the Thirty-fifth Annual Meeting of the State Historical Society of Wisconsin* shows in its reports the results of intelligent management in building up an exceedingly valuable library. The collections of periodicals, pamphlets and newspapers are especially full and valuable. Two features noteworthy in the year's work are the new department for "Wisconsin Authors," and the large manuscript additions relating to the early history of this state. The Art Gallery and the Museum also show important additions during the year. The pamphlet contains Dr. Butler's Memorial Address on Alexander Mitchell.

—We are indebted to the author for a copy of *The Physical Side of Education*, by Supt. W. E. Anderson of Milwaukee, reprinted in pamphlet form from the report of the Wisconsin State Board of Health for 1887. It is a very suggestive essay.

— *The Map Graphic* is a large folio to be issued from time to time by Rufus Blanchard, 141-143 Wabash Av., Chicago. The first number contains an admirable map of the environs of Chicago, with accompanying letter press, and a sketch of historical geography with several maps. Price 10 cents.

— *Vick's Floral Guide* is always welcome—indispensable to those who are forming plans for summer planting of flowers or vegetables. The issue for 1888 appears in a beautiful cover and contains a large assortment of novelties. Published by James Vick, Rochester, N. Y.

LITERARY NOTES.

—Archdeacon Farrar, in the January *Harper's Magazine*, writing of "The Share of America in Westminster Abbey," enumerates only three memorials distinctly American, the bust of Longfellow, the memorial slab to George Peabody, and the memorial to Colonel J. L. Chester, who prepared a volume on the Abbey. Besides these Major Andre and Gen. Wolfe belong to American history.

—Deacon Farrar calls attention to the memorial to Barton Booth, who died in 1733. He was led to become an actor by the applause given to his performance in a play of Terence at Westminster school while he was a pupil there. Edwin Booth and Wilkes Booth are his descendents. "How many destinies, how many generations, were influenced by the applause given to a dashing Westminster boy about the year 1695!"

— *The Academy*, Syracuse, N Y., offers a prize of fifty dollars for the best essay on Science in Secondary Schools. Not arguments in support of science teaching, but the results to be sought and the means of attaining them, are wanted. The papers must not exceed 5,000 words, and become the property of *The Academy*.

—Mr. Stillman, in the *Century* says of Ruskin: "I can but regard his influ-

ence on modern landscape painting as pernicious in the extreme:" and concludes that his position is higher than that of an art critic, being really that of a moralist and reformer.

—*The Scientific American* has established for itself a national reputation as the best source of information regarding recent improvements in machinery, and keeps its readers well posted in all matters pertaining to scientific progress. It is full of profitable reading matter, and its value does not cease as soon as read. A file of it for a year is a scientific library.

—Ginn & Co. will issue in March *A Course in Bench Work*, designed for the use of schools and colleges, by W. F. M. Goss. It will contain three parts: Bench Tools, Bench Work (a complete course in the elements of wood-working), and Wood Construction.

—A new edition of Wordsworth's *Prelude*, with notes by Prof. A. J. George. of Boston University, is announced by D. C. Heath & Co. The notes are results of experience in teaching Wordsworth and of a visit to the English lake district.

NEWS AND NOTES.

—The first article in the present number of the JOURNAL accidentally lacks a signature, but readers will at once recognize it as by State Superintendent Thayer. The importance of the views presented will command attention at once.

—The department of Superintendence of the National Educational Association meets in Washington, Feb. 14, Supt. Thayer reads a paper on "What is the purpose of County Institutes, and how is it best secured?" Other important topics are on the program.

—At the state examination for teachers'certificates held in Madison this winter, life certificates were granted to C. F. Cronk, of Stoughton, and to J. L. Sherron, of Albany. The following received limited certificates: H. W. Dietrich, of Avoca; M. H. Jackson, of Whitewater; Carrie J. Smith, of Fort Atkinson; Milton E. Terry, of Cambridge; and A. G. Zimmerman, of Bloomington.

—The most important and interesting paper read before the Wisconsin Academy of Sciences at its meeting in Madison this winter was prepared by Prof. R. D. Salisbury, of Beloit College. Professor Salisbury, who is now in Europe, has been in Germany during the past summer studying glacial phenomena, and finds there a great terminal moraine corresponding to the Kettle range of this country. He traced it form Schleswig to the Russian frontier, and worked out its structure in some detail. The paper is of great value, and was especially interesting as showing the close similarity of the glacial phenomena of the two continents. It is certainly a very significant circumstance that a young American scholar should be the first to develop this interesting fact, thus getting the start of European Geologists on their own field.

—The trustees of Lawrence University, at Appleton, have dedided to erect a ladies' hall next season, commencing work as early as possible. The building will cost $20.000, and will be designed

to furnish all the comforts of a home to sixty young ladies.

—At a teachers' examination in Jackson county last fall at which there were 64 applicants Sup't. Hoskins asked how many had read any book on education. The result showed 27 who had read no book on the subject. Nineteen were not readers of any educational journal. The nineteen who read no journals were probably also included in the twenty-seven who had read no book on education. Each one of them probably finds the business so very simple that such helps are superfluous. However, in point of numbers who had read books or journals on education the showing is better than could be made in a good many other counties.

—In Sup't. Hoskins' notes the following attracts our attention: "Town Treasurer Wright, of Alma, set apart last fall the proportion of school money designated by the recent school law for the purchase of school libraries, and in November the town board of supervisors made a selection of books. These books have now been equally distributed among the districts of the town." It will be possible, before long, to ascertain how many town clerks are thus complying with the state library law. As usual with new legislation, it was not fully understood in time for the last years' apportionment by many of the clerks, and in other cases local causes interfered with carrying out the measure. It has, however, been followed in a large number of towns and will take effect much more generally this fall.

—The Ashland high school recently raised one hundred dollars for a school library by giving a public entertainment. They intend to make their selections largely from the list recommended by the State Superintendent, and published, with prices at which they will be furnished by Chicago book-men, in the July (1887) number of the JOURNAL. Two new departments have been opened in the Ashland public schools since the holidays to meet the needs of the rapidly increasing population.

—Beloit College is taking measures to secure $60.000 for a new building and endowment for the preporatory department, which is very prosperous, having now not far from two hundred students. The catalogoue of the college shows an attendance in all departments of 265, which is the largest ever enrolled, and twenty-five percent more than the enrollment of last year.

—The Wisconsin State Historical Library is one of the best in this country, being carefully selected, and especially rich in newspaper-files and pamphlets. It now has 60,722 volumes on its shelves and 62,727 pamphlets. 2787 volumes have been added during the past year. A copy of Lord Vernon's folio Dante in four volumes has been presented to the library by his widow, and is the most elegant and expensive book added during the year.

—In Minnesota County Superintendents meet with the State Superintendent for consultation, as in Wisconsin. In Wisconsin the convention were held this year at Eau Claire, Oshkosh, Milwaukee and Madison.

—There is evidence that the new law passed at the last session of the legislature making first grade county certificates valid for four years, and second grade for two years, while third grade are valid only for one year, is beginning to yield the desired result. Supt. Nagle, of Manitowoc county, says that these higher certificates are now sought with more eagerness than formerly. Other superintendents note an increased desire to secure them now that they bring relief from the presure of the yearly examinations.

—Prof. T. H. Kirk, of Minnesota, has been testing the reading of the teachers whom he has met in institutes during the past year by means of a series of questions, from the answers to which he proposes the following interesting statistics: "About 1½ per cent of the titles belonged to selections, not to books; 5½ per cent were text-books; 3½ per cent related te teaching; about 35 per cent. were novels; 12½ per cent. history; about 16 per cent. poetry; 4 per cent. science; 9 per bent biographies; 13 per cent. miscellaneous. A few teachers gave the Bible in the list. Nearly 6¾ per cent. of the teachers had read no books; 12 per cent. only one; 11½ per cent. only two; 14 per cent. only three; about 46 per cent. more than three."

Among the Positions for Specialists

Filled this year by the Teachers' Co-operative Association, 170 State St. Chicago, are the following: In Lake Forest University—Biology, $1,800; Modern Languages, $1,800; Principalship of Academy, $2,000; Latin Mastership, $1,000; Instructor in Science, $1,000; Beloit College—Modern Languages, $1,500; German, in High School, Columbus, Ohio, $1,000; Elocution in University, Salem, Oregon, $700; Drawing, Public Schools, Winona, Minn.; Alma College, Mich.,—Sciences, $1,500; Latin, in High School, Muskegon, Mich., $800; Literature, State Normal, Whitewater, Wis., $900; River Falls, Wis., State Normal—Primary, $700; Winona, Minn., State Normal—Model Dept., $800; St Cloud, Minn., State Normal—Sciences, $900; Peru, Neb., State Normal—Sciences, $1,200; State Normal, Ills—Literature, $1,500, etc., etc. English, Seminary, Indianapolis, $500; Modern Languages, in the following High Schools:—Topeka, Kas., $8,000; Manistee, Mich, $600; Whitewater, Wis., $1,000; Hyde Park, Ills., $800; Marengo, Iowa, $800; Kendallville, Ind., $700; Jacksonville, Ills., Art, Baker University, Kansas; Mathematics, College, Milwaukee, $700; English and Literature in the following:—Willard School, Chicago, Ann Arbor, Mich., H. S., Salt Lake City, Utah, Seminary, Mt., Carroll College, Seminary, Aurora, Ills., Seminary, Louisville, Ky., Tonic-Sol-Fa, Austin, Ills., Greek, College, Farmington, Mo., Latin, H. S. Springfield, Ill., Elocution, Ft. Worth, Texas, Seminary, Art, State Normal, Cape G. Mo., etc., etc.

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CORRESPONDENCE FROM JAPAN.—AN OLD JAPANESE CITY.

Let me tell you something about the city in which we live. It is called Mito, and contains about 30,000 inhabitants. It is situated in Ibaraki *Ken* (province), in the central eastern part of Nippon, which is the largest of the islands constituting the Empire of Japan. It is on the Naka River, and is only 7½ miles from the ocean. It is distant from Tokyo across the country to the north about 75 miles, but accessible via that route only by *jin-riki-sha* (man-power-carriage), or *bassha* (stage). The preferable route for foreigners is along the two sides of the triangle,—a distance of about 125 miles. This trip is accomplished, part of the way by railroad, and the remainder by the ubiquitous *jin-riki-sha*; and it consumes altogether one day and a half. You will be very much weared by the journey; but, at the same time, you cannot fail to enjoy the beautiful scenery. The road winds in ascent and descent along the sides of the peaks of the Tsukuba Mountains, which were the scene, two or three decades ago, of many battles between the factions struggling for power. In another year it is expected that the rail-road will be completed to Mito; and then a trip to Tokyo and back can be accomplished in one day.

Mito is composed of an upper and a lower city, of which the latter is in the plain through which flows the Naka-gawa; while the former is on the edge of a plateau. In coming to Mito by the round about way, you approach from the west, and enter the upper city.

Off at your right hand is the "second park", or public garden, of Mito. It was laid out about 50 years ago by the Lord of Mito, as a

summer residence for himself after he had resigned the goverment of his clan. It is on a rise of ground, and is a very pretty place. Dwarf shrubs, symmetrically trimmed, and plum trees, are planted here and there; while artificial mounds and rustic fences of bamboo contribute much to the beauty of the spot. On one slope stands a tiny arbor, where the old *daimio* (as a lord of the empire was called under the old regime,) used to sit in the evening. Near by it are fixed in the ground two small stone tables, each about 15 inches square and 10 inches high. One is marked for a chess-board; the other for the game of *go*, which resembles chess. In a grove below is a well, the upper part of which is hollowed out from a block of the white marble found in this province. This well is fed by a spring beneath, which keeps it brim full. The house itself stands in the highest part of the garden, and is approached by neat stone steps. The first floor is almost entirely occupied by one room, where in former days famous scholars, poets, and other men of renown, used to assemble to write verses and practice penmanship. The sliding doors of this apartment are divided into small spaces about one inch square, each of which is inscribed with a Chinese character. It was in this park that the Governor of Ibaraki gave a public reception on the occasion of the Mikado's birth-day, Nov. 3. This was largely attended by the best citizens, and was especially marked by the presence of several Japanese ladies, who had never before been seen at public gatherings.

Not far from here, in the sides of the plateau, are several curious looking openings. These upon examination prove to be caves, out of which sand-stone is quarried in rectangular blocks for foundations of buildings.

Near this park is also a Shinto temple. As is usual in connection with these temples, several *torii* (arches) lead up to the shrine. These arches are always very simple in construction, and contain no decorations or carvings. They are usually made of plain wood, though sometimes stone or bronze is used, and the arch is painted a bright red color, and has also a tablet inscribed with the title of the gods to whom the temple is dedicated. At the above-mentioned temple the *torii* immediately in front of the shrine is of very solid white. In the shrine are large pictures and votive tablets, and various relics, among which special attention is called to an old bronze cannon, but no explanation is vouchsafed.

As you ride around through the city, you well see some narrow lanes

and some wide streets; some low houses with thatched roofs and many signs of old age, some larger and two-story houses with tile roofs and many evidences of thrift. You will probably be surprised at the number of new houses, built and building here and there; and you will also observe some large vacant lots with charred trunks of trees and ruins of buildings: for a disastrous conflagration swept over Mito one year ago to-day (Dec. 30), and devoured 607 buildings. The traces of this fire have not yet been entirely hidden by new structures; but building is going on rapidly, with fewer of the thatched roofs, and more of the neat and substantial styles. The streets in the burned district have been widened; and many other precautions have been taken against another calamity of a similar kind. One day I noticed several policemen practicing at a well with a pump and hose, and was pleased to see, that they could be of considerable service in case of a fire.

You would, of course, attract great attention here, and be "the observed of all observers". Children, with babes strapped to their backs, would run after you, as you ride along; or follow you, as you walk; or gather round you, if you stop at a store or house. Nor would this curiosity be limited to children; men and women would also rush out to get a view of the "stranger." We are the only foreigners in Mito; and, whenever the ladies go out of doors, they head a procession up and down the streets. When the children see us coming they point at us, and cry out *iijin*, which is, being interpreted, "foreigner". Then they will run ahead as fast as they can go, rush pell mell into their homes, and announce the exciting news to all the household. All drop their work, whatever it is, and appear at the windows or doors to see the wonderful sight! Sometimes the crowd around you in a store becomes so large that you can hardly move about, unless they are dispersed by a policeman. However, you will soon get accustomed to these manifestations; especially as the better class of the people and their children are very courteous.

I shall not stop to describe any more particularly the houses and the stores of Mitô: but I must digress here to tell about the beautiful "camellia Japanica," which blossoms all winter long. Our interpreter just brought in a bunch with large red flowers; and we have also received branches with double white, or pink blossoms. The chrysanthemums, too, of which we have had many kinds, are magnificent, and are produced in about 300 varieties of size and color. Some blossoms

in the Imperial Garden in Tokyo are said to be one foot in diameter.

But we must continue our trip through the city. If you go on foot, you must walk in the street, for there are no sidewalks. But you had better take a *jin-riki-sha*, which is very comfortable for a short journey. You will notice a foreign hotel, and other buildings of two stories, in process of erection, the court-house, the police head-quarters, public schools, the high school buildings, the jail and the provincial offices. You would be much interested in visiting the schools; but must wait until another time, for it is vacation.

Beyond the *Kencho* (provincial buildings) is the "first park" of Mito. This is frequented by the public more than the one previously mentioned. The fact that the grass has been plucked up, and is scrupulously kept from growing again, would surprise those who are accustomed to the soft green lawns of American parks. But it is a prevailing custom in Japan, both for private and public lots, to allow no grass to grow, and to keep the ground hard and well swept. The quaint, but symmetrical, trimming of the shrubs and trees will also attract notice. In this park, in a state of considerable decay, is an old Confucianist temple; and you see also a few stone slabs with Chinese inscriptions, set up here and there as shrines.

Those men, who are leveling the roads and vacant lots, are criminals, who are made of great service in public works. They can always be recognized by their "crushed strawberry" suits, and by their propensity, on account of certain ankle ornaments, to go in pairs. Those individuals in blue uniforms with sword by their side are the provincial police. Their chief must always be informed when a foreigner, traveling with a pass-port, either "for health" or "for scientific obsevration," stays over night in town.

Beyond this park are the castle grounds, where the Princes of Mito lived. These grounds are in a very picturesque spot at the eastern end of the upper city, and at the very edge of the plateau. The castle was, therefore, as Cæsar would say, "admirably fortified both by nature and by art." On one side were the high banks made by the rise of the plateau; on the other were deep moats, which formed a good defence from the city side. The remains of only a few buildings, among them a watch-tower, are still standing in more or less decay; for they are all very old. The grounds are full of immense and magnificent trees,—oak, pine, fir and cedar, some of which are said to ante-date the build-

ings. The Ote Gate (front entrance) is accessible only by a bridge, whose decay indicates great antiquity; and the massive old gate itself is riddled with bullet holes made during the fighting, in 1873, between factions of this prefecture. This grand and historic spot is being altered to suit modern demands. A Normal school, under the control of the Imperial Government, is to be located in the castle grounds; and the buildings for recitation and dormitory purposes are being erected.

I have already partly explained the caption of this article; but let me say a little more. Mito is one of the most ancient and famous cities in Japan. In the old feudal days the Prince of Mito was one of the most influential *daimios*, and his clan, therefore, one of the most powerful, in the realm. In the 17th century it was a Prince of Mito who was foremost in welcoming Chinese classics and scholars, and who made Mito one of the great centres of learning and education. In those days, when every thing foreign was opposed, and the learning and literature of Japan were considered sufficient in themselves, the Prince of Mito took the lead in the introduction of Chinese literature. And, however unsatisfactory the effect of Chinese influence may have since proven, it produced a great intellectual awakening.

Inasmuch as Mito is the capital of Ibaraki *Ken*, the Governor's residence is here. At present he lives in a pretty and commodious house just across the street from us; but in about a year he hopes to be settled in a fine home on the verge of the plateau near the castle and the provincial offices. He intends to have a large yard, beautifully ornamented with shrubbery and trees, but with a clear space left for a tennis court. Gov. Yasada, who is a perfect gentleman, deserves especial mention, because he is one of Japan's progressive officials, and labors ardently for the advancement of his people. He traveled over a year in Europe and America, but does not speak English. During the trip abroad he had an interpreter in Mr. Watase, whom, as soon as he was appointed Governor of the province, he called to be Principal of the high school. Mr. Watase and wife both speak English well, and are very intelligent and cultivated people, who co-operate zealously with the Governor in his reforms.

It was not many years ago when Mito might have been called the hot-bed of opposition to foreign customs and influence. This seems strange in view of what has been said previously about the Prince of Mito and his ardent advocacy of Chinese learning. But in that case,

probably, the authority of the *daimio*, who had the absolute power of a feudal baron, was sufficient: but when feudalism had been abolished in Japan, the mass of the people became content with things as they were. A any rate it is true that only a short time ago some Japanese, who came here to tell their countrymen about the Bible and Jesus Christ, were cruelly treated, and finally stoned out of town. But to day the people of Mito are more willing to listen to both the secular and religious teachings of foreigners. We have been very kindly received and courteously treated. On the day of our arrival the scholars and teachers of the *Chin Gakko* (high school) marched out 1 *ri*, or 2½ miles, to meet us and escort us into town. We have had a one-story frame house, the shape of half a square, built especially for us, with some foreign conveniences. The Japanese frequently show their thoughtfulness and friendship by sending us gifts of various kinds, both useful and ornamental.

The number of those who have adopted foreign costume, except among the women, is increasing. As for the women, both young and old, they are very much interested in foreign styles of house-furnishing and dress, and also in our piano, which is the first brought to Mito. A "Women's Association" has been organized by Mrs. Watase. A Girl's school has also been opened through the enterprise and liberality of private citizens.

The stores are constantly introducing foreign articles, both of food and dress. It had been represented to us that we should have great difficulty in finding those things which we should want for our comfort. But we are every little while surprised to find something for which we had supposed that we should have to send to Tokyo or Yokohama.

In fact, a great revolution seems to have been wrought in this place within a very short time. Governor Yasada certainly has reason to feel proud of the results even thus far of his administration. But he will be able, I am sure, to accomplish still more for the people of his province; and, when the railroad reaches here, I look for more rapid strides in advance.

I have kept you here a few days in order that you might see the manner in which the advent of a New Year is celebrated in Japan. All the preparation of the preceding days has culminated in making the city look quite gay. Long banners raised on high are floating here and there to advertise the shows and circuses which are to help make

the days and evenings merry. In front of one show are flaming pictures of elephants and scenes probably of the plays. A drum is going all day and into the evening; and the people are flocking in to see the sights. At other places here and there are little stands, where confectionery or toys are sold, or some sport is going on, to the delight of the children. A prominent display is, of course, made of the Japanese flag, which consists of a "rising sun" on a plain white ground.

On New Year's Day no stores or shops are open, and no business is transacted. Before that day all bills have been settled, so that each one may begin the New Year with a square account.

At the entrance of almost every house is some kind of a decoration. The simplest consists of two little pine branches planted one on each side of the gate-way. In other places you see larger branches of pine, or fir, or bamboo, arranged in the same way; while a few have beautiful green arches over the entrance. Sometimes bouquets of flowers, and leaves and twigs and wisps of rice straw are tacked up just over the door-way or on the wall.

The streets are alive with men hurrying to and fro to carry out the requirements of courtesy. For it is the custom during any of the first seven days of the year to call and leave your card at the houses of your acquaintances, and to give presents to your most intimate friends. The most of the calls are, however, made on New Year's Day, because that is a day of leisure: although many of the people continue their rest from work during the entire week.

As I am a stranger and cannot speak Japanese, I am not expected to leave my card, except with the Governor and some of the other officials. But I wish also to perform a like courtesy to my English-speaking friends, and to a few Japaneses who have been particularly friendly. So I start out Monday, Jan. 2, and have a pleasant ride as well, for it is as yet charming weather, at least in the middle of the day. At some houses a box is hung outside, or table placed in the entrance way, to receive the cards of the callers; at other places a servant is ready to greet me with a low bow, as he receives my card in a tray. When I return home, I find that I have been the recipient of a great many similar calls, and am the possessor of many interesting and curious cards, which I cannot read! And now, while the house shakes a little with a slight earthquake shock, of which we have had several

in three months, I give you all the usual greeting: "*Shinnen de o medeto gozari masu*" ("On the New Year I congratulate you.")

E. W. Clement.

MITO, JAPAN.

THE COURSE OF STUDY IN COMMON SCHOOLS.

The subject, "Course of Study in The Common Schools" is a broad one in its scope, but I beg leave to assure the audience that our excellent President had your comfort in mind when he assigned this subject to me, not so much in his selection of a person to consider it, as in the fact that he imposed a rigid limitation as to the time to be consumed in the presentation of such consideration.

This limitation, together with the fact that most of those present are familiar with the efforts put forth for some years by the state department and by this Association and other educational factors in the state, for the introduction and use of a course of study in the common schools, make it unnecessary for me at this time to present any resume of these efforts. I shall therefore confine myself to a presentation of some facts as to the present status of the course of study in the common schools, a statement of what benefits we may reasonably expect to accrue to the schools from its use in the future, and a few suggestions as to lines of work by which we may expect those benefits to be realized with the least delay and loss of effort.

In order to secure as wide a range of expression as possible concerning the three lines of thought just indicated, I sent, in October, a circular letter of inquiry to the county supterintendents of the state, asking for information based upon their experence and observation as to results accomplished, before and during their incumbency of the office, in the introduction of the course of study into the schools, and of their work with it. Further, whether the results already secured were such as to warrant a continuance of effort for the general use of the course of study as a basis of the work in the common schools of the state, and for such suggestions as they might have to offer as to the character of these efforts.

I take occasion here to express my sincere thanks to the county superintendents for their prompt responses to these inquiries, replies

having been received from nearly every superintendent in the state, some of which might, I think, be profitably substituted for this paper.

From the testimony of the county superintendents thus received, from personal interviews more at length with many of them, from the testimony of hundreds of teachers not in the institute work, as well as from their attitude towards the course, from the demand for and inquiries concerning it received at the office of the state superintendent, and from other sources, it seem evident that the following facts may be sustained as to the present status of the course:

1. That at no time since the agitation for its introduction was begun, has there existed such an intelligent and appreciative view of the advantages to be derived from such a course as at the present; nor have the difficulties and the necessary limitations in the way of its adoption and proper use been more clearly and generally seen than now.

2. That in a large number of counties, especially in those where the county superintendent has been longest in office, though by no means confined to these counties nor true of all them, it is a fact that the spirit of the course has come to be recognized as of more importance than its mere machinery, its forms, graduations and diplomas.

In other words, the course, presenting a logical order of development of subjects both as to matter and time, has come to be recognized as a valuable means for securing a still more valuable end, the good of the child, rather than a mere machine though which the child is to be ground regardless of consequences to him.

3. That the number of schools in which the course of study has been formally adopted by action of the school board, or in which it has been introduced by the teacher without formal action of the board, but without their objection, and followed out in its details of gradation and classification, with the necessary accompaniment of examinations, promotion, and graduations, bears but a very small percentage to the whole number. Further, that the number of schools in which such aforesaid adoption has been made is in no sense a measure of the amount of work done throughout the state, and which has been moulded and guided by the course and done in accordance with its underlying principles.

4. That in a very large number of schools other than those just mentioned, the course of study has been made the basis of work, where no effort has been made for its formal adoption, and where patrons and

pupils are perhaps ignorant of the fact of such work being done.

It is exceedingly difficult fairly to measure how far this use of the course of study may have benefited the schools. The poor teacher, or the one lacking experience, may not do as good work while following a given course of study as a good and experienced teacher may do without it, while the work of the poorer teacher may well be better if based upon some definite plan than if left to chance or whim.

The testimony of superintendents of recognized experience and ability is almost unamimous as to the benefits accruing to the schools from the attempts of teachers to do *something* with the course, even though these attempts have not yet resulted in all that they may wish.

Some of the benefits which these superintendents report are as follows: More methodical and intelligent work in the primary form; a decrease in the tendency to take up but a portion of the course, leaving the studies for which the pupil fancies he has no aptitude untouched; improvement of records of work done, resulting in a doing away with the practice, still too common, of begining at the same point term after term. These benefits, while not all that were hoped for from the course, indicate progress, and a general bettering of the condition of the schools.

That these benefits and others may result, and have resulted without the knowledge oftentimes of patrons and school boards, and frequently of superintendents who have but recently entered upon the duties of their office, I am convinced, both from the reports of superintendents, who have been long enough in the field to measure progress, and from my own investigations independent of these reports.

This fact explains what I was at first at a loss to understand, why so may superintendents reported, in answer to one of my questions, that when they entered upon the duties of their office, the course of study prepared by the state superintendent for use in the common schools of the state not was used to any considerable extent, as the basis of the work in the district schools of their counties. It will be clear that these superintendents now serving their first term, and not having had a full year to observe and measure the work in the schools, would naturally be unable to judge of the full effect of the course of study in shaping the work, where the more easily observed machinery of the course was not in full operation.

5. That among the teachers of the state as a whole, there is a grow-

ing idea of the value of the course of study to them in their work, and an increasing desire to become more thoroughly acquainted with its purpose and scope, resulting in greater ability to use it effectively.

Many superintendents examine applicants for certificates upon the course of study, which plan, if more generally, followed would result in securing a basis for more intelligent work on the part of those who each year are entering upon the work of teaching.

6. That the county superintendents now in the work are, almost without exception, convinced of the value of the course, in its essential features, and are earnestly endeavoring to promote and further its intelligent use, though many of them are handicapped in their efforts because of the amount of work made necessary in the supervision of too large a number of schools, or, in the thinly populated or small counties, by the small salary attached to the office, which compels them to give a considerable portion of their time to other work in order to gain a subsistence.

Of more than sixty superintendents whose reports I received, but three reported that in their judgment the course of study was not in its essentials a practical scheme for work in their schools, and by their teachers.

7. That in a large number of schools examinations are held to furnish a measure and record of progress. Questions for promotions and graduation from the course are prepared and submitted by the county superintendent, resulting in more careful work by the teacher and more thorough work by the pupil.

In several counties, diplomas of graduation from the common schools admit the holders without examination to the free high schools of the county, thus bringing these schools into closer relations with the district schools.

8. That while there has been an improvement of late in the matter of records of work done by the teacher, to be left for his successor, the number of instances where such records are kept in a manner at all adequate for the purpose designed is comparatively few.

I think that enough has been stated concerning the present status of the course to indicate that those who would judge of its value by the number of schools in which its formal machinery is in full operation, by the number of graduates from the full course, or by the number of schools where each pupil is doing at a given time all and only the work

of a single form, will be warranted in saying that the course is not in the highest degree a success, and that further efforts to introduce and use it are not warranted by the result to date.

While those who are inclined to look below the surface will find that, though there may have been much misdirected effort, owing to improper ideas as to what constitutes success in the introduction and use of the course, there has been much effective and valuable work done in the best interests of the schools in the efforts put forth to make it a basis for work in our common schools.

To those who think expectations and promises as to what it was to do for the schools have not been realized, I would suggest that possibly those expectations and promises were not based on a wise view of what it means to revolutionize, systematize, and uplift the educational aims, ideals, and methods in the district schools of a state like Wisconsin.

When we consider the varied and changing character of the population in large districts in our state, the inertia which comes from satisfaction with the old, and the constant and persistent efforts necessary to overcome it; and then consider that at the end of every three years our teaching force is almost completely changed, which frequent change must greatly interfere with and hinders continuous effort toward a given end, is it not rather to be wondered at that so much has been effected?

In determining whether further effort to make a definite course of study a basis for work in the common schools of the state should be made, we are not to be guided alone by its measure of success in the past. The fundamental question to be answered is: Is it sound philosophy to say that, because our educational work in the common schools has been for years in a chaotic condition, controlled, guided and changed by the whims of pupils, parents and teachers, that therefore there shall be no effort made to reduce this chaos to order, and to base work the on sound educational principles?

That there are obstacles in the way, makes the task more difficult, but does not lessen the necessity for undertaking it. The difficulties must not be ignored. Their existence will make a longer time necessary to accomplish a given result, and those which can not be removed must be taken into consideration in the shaping of the system to be introduced.

It is largely along the lines where we have already found benefits re-

sulting from the use of the course of study that we are to look for further improvement in the future.

Greater definiteness of aim in the work properly belonging to each form; a better comprehension of the characterstic differences between primary, middle, and upper form work as related to the different stages of the child's mental development, and therefore a better basis for more intelligent work and stimulus to that work, will briefly summarize the fundamental advantages to be secured; accompanying which, will come an attendant train of minor benefits pertaining to the details of the work. With these fundamentals secured there will come economy of time and effort, better and more systematic instruction, greater enthusiasm and earnestness on the part of both teacher and pupils, more humanity and less machinery.

That by this, or any other course of study, a rigid system of gradation can be enforced in the common schools is not for a moment to be expected, and were such a result possible and contemplated, it would be the strongest argument which could be made against the adoption of such a course. I believe there has been much loss of time and effort, and consequent failure to secure desirable results, because too often stress has been laid upon the classification and grading under the course, giving attention to and magnifying the importance of its mere mechanism, while the underlying principles on which it is based have been ignored. Let these be grasped clearly by the mind and the mechanism will take care of itself.

I do not wish to be understood as saying that classification and grading are of no importance, but that they should be given precedence over all other matters in considering the adoption and use of a course of study I most emphatically deny.

The first impression which the novice gets when this course of study question is presented to him is that it is a system of grading, and the only standard by which he can comprehend it is the graded system of the city schools, and of this, the to him most important thing is its exact system, and rigidity. This impression must be removed before the patient is in a condition for a rational course of treatment.

What now can be done to secure these benefits to the schools? I am not conceited enough to think that I shall be able to give any complete answer to this question, and shall only presume to offer a few suggestions, possibly none of them new.

The institute is the place whence the great mass of teachers must draw the inspiration which is to guide them in this effort to introduce order and system into the schools, so far as a definite and authoritative course of study can be made available for that purpose.

I was surprised to learn, from the reports received from county superintendents, that in many counties the institute work had had no apparent connection with or relation to the course of study. Whether this was due to a failure on the part of conductors of institutes to establish this connection and make clear this relation to a person of average capacity, or whether teachers were affected with a temporary mental color-blindness I have not been able to determine.

From a considerable number of superintendents has come a suggestion that the institute work should have as its basis the course of study, and that more time should be given than has generally been done to a study of the course by the teachers, and to an elucidation of its underlying principles by the conductor. I believe that no more profitable work could be done. This work would require for its proper performance more time when dealing with those who take up its consideration for the first time, than with those who have already given it considerable attention and had experience in teaching.

If, therefore, the institute could be sectioned, work could be better adapted to the various needs of the experienced and inexperienced, and I believe a gain both in interest and in effective results secured over the present plan of massing the institute as a whole. The work begun in the institute, if it be profitable, ought, if possible, to be made in some sense continuous throughout the year, and in many counties this is done by means of teachers' meetings and associations, which like the institutes, vary in the excellence and permanency of results. I have thought if it were possible to establish closer and more permanent relations between the regular conductors and the county superintendents in the institute districts, the character of such relations and the scope of work to be undertaken to be under the control of the state department, that such an arrangement would be of value both to the institute conductors and to the schools, through the superintendent. The conductor would thus be enabled, if time were allowed him for the purpose, to gain a more intimate knowledge than he now possesses of the exact conditions and needs of the schools, and of the effect or lack of effect of the institute work. Such knowledge is absolutely essential to

the one who would do the best work, for without it he is like the helmsman steering without a compass.

This arrangement might be of value to the supterintendent, especially to the one new in the work, since he might call upon the conductor for assistance in certain lines of work at the outset, until by his own experience he had made such assistance unnecessary.

One or two lines of work may be indicated. Where teachers' meetings are held in counties where the superintendent has just entered upon the work, and *possibly* without *special* training for it, the conductor knowing something of the work previously attempted in the county, and of the character of institute work done and to be done, might be called upon to suggest a line of work in continuation of that already begun, which should at each meeting occupy a portion of the time.

Circulars giving suggestions upon definite portions of work in the course of study might be prepared by the conductors, under the advice of the state superintendent, and furnished to the county superintendents for use among their teachers if desired.

A definite and uniform system of records and reports might be established, which would give to teachers, superintendents, conductors and the state department valuable information.

I believe that much work of this kind might be done which would be of benefit to the schools of the state generally, and that without increasing the work of the superintendent.

One reason why greater progress has not been made in the use of the course of study in some of our larger and older counties is through lack of effective supervision, because of the physical impossibility for any man to do effective work in supervising one hundred and fifty or two hundred schools and also attend to the other duties of the office. Whatever can be done to render this supervision more effective without increasing the work of the county superintendent ought to be done. I have already indicated the general lack of records which give any valuable information to the succeeding teacher or to the superintendent. Without such a record of work done, under our present system of frequent changes of teachers, it is impossible to give any permanency in a given school to any course of study. The making out and leaving of such records for the next teacher would do more to improve the school the next term, if the new teacher knew that he was expected to make use of those records in and organizing and classifying his school, than

several visits of the ordinary duration made by the superintendent. The superintendent who will establish such a system of records will do good work for his schools, if he does not visit one of them during the year. I believe it possible to establish a system of reports from teacher to superintendent which shall give him, in many instances, a better knowledge of the work being done in the schools of his county without leaving his office, than he often has after making hurried visits to all of them and spending several months in doing it. Such reports would enable him to determine in most cases, where his counsel and help were most needed, and this information acted on, might make a teachers' work a success, instead of its being a failure for lack of a little timely advice and assistance.

Such reports however, should be brief, and call for nothing but essentials. In too many cases where reports are now used they are of but little value, calling as they do for almost every thing except what is essential.

Briefly, my thought here is that more of the executive work of the superintendent should be done in his office, and less time spent in traveling over the country. It might be worse for his health, and it might be better for the schools. Such a system of reports might properly be suggested by the state department, with such attention to details of form etc., as would make them most convenient for the use of superintendent and teacher.

As to changes in form and arrangement of course of study, and elaboration of the manual, which have been suggested by superintendents, I have said nothing, as both are now understood to be in process of revision and it is hoped will meet the requirements.

The time limit has been reached, and I will only add, we shall do well to remember that after all, it is the teacher who makes the school, that a prescribed course of study does not make a teacher, and is not to be worshipped, but that it is *one* of the essential aids to the teacher who aims to do good work, and as such it is to be treated.

L. D. Harvey.

OSHKOSH, WIS.

He hated from his heart every lie which he did not utter himself; so he seriously regarded himself as moral, disinterested, and gentle, merely for this reason, that he inexorably insisted upon all this in the case of others.

SCHOOL LIBRARIES.

Notwithstanding the efforts of the State Department of Public Instruction and others to make known the existence of the law providing for district school libraries, it is news to the majority of the patrons of our public schools that the last legislature passed such an enactment. The measure is by no means an innovation, similar laws being in operation in most of the northern states, as well as in many of the south. The cities and larger villages of Wisconsin have long given school libraries their hearty support, and have made special appropriations for them, while funds derived from voluntary contributions, or from entertainments given for the benefit of such libraries, have greatly increased the number of volumes in circulation. A plan for affording rural schools similar priviliges was not easily devised, though the subject has been frequently discussed for many years.

In its main features the library law adopted by Wisconsin last winter is essentially the same as similar enactments in other states, though in the application of some of its provisions it will be found more practical than many of the others. It provides for withholding one-twentieth of the school fund income apportioned to each town, together with one-twentieth of all county and town taxes annually raised to secure that apportionment. The money thus withheld is to be expended for the purchase of district libraries, pursuant to the directions of the state superintendent, who is annually to prepare lists of such books as he may deem suitable for school libraries.

It will readily be seen that the law does not contemplate the purchase of large and expensive collections of books, which are difficult to care for, and which for many other reasons are not desirable in schools. The plan is to supply each district with a few good and interesting volumes, which can be freely passed from child to child. It is a well known fact that a limited number of volumes will invariably receive more care and attention than a large collection. A multiplicity of books seems to repel a child, while a few will be eagerly read. As provision is made by the new law for the purchase of additional volumes every year, the scholars in each district will be anxious to finish the reading on hand before the new supply arrives. These annual purchases have another advantage, as they enable school boards to obtain the latest and best publications, and so keep the school work abreast of the times.

The question may arise in the minds of many whether the small amount of money provided for by the new law can be invested so as to procure even a limited amount of desirable reading matter. To correct any misapprehension in this regard it is only necessary to call attention to the present cost of books. At no previous time has good literature been so cheap. Publishing houses are now offering to the public standard works at lower prices than ever before; and especially is this true of children's books, which are issued in such large numbers and at such low rates as to place them within the reach of all. In the preparation of the list recommended for district libraries care was taken to make the best terms with publishers, and special rates have been secured, so that it is now possible for town boards to procure a dozen or fifteen desirable volumes for the small sum of five or six dollars. For the average rural school this will be found a sufficient number of books to place at the disposal of the pupils the first year, and should the needs of the scholars seem to warrant it, additions may be made at any time. Too much emphasis cannot be laid on the fact that by judicious expenditure the best literature of our language may be brought within the walls of our school houses at a trifling cost.

To all it will undoubtedly seem an excellent feature that the selection of books for district libraries is made with the advice and under the direction of the Department of Public Instruction. In the preparation of the list the state superintendent calls to his assistance the aid of teachers and county superintendents of this and other states, and receives suggestions from librarians throughout the county who have had wide experience in such matters. Every effort is made to meet the needs of the different schools. The present list contains several hundred volumes, and covers a wide range of thought and interest. A careful classification has been made, showing what books are suitable for the youngest children, what for pupils in the second form, and also for pupils in the grammar grades and high schools. This reading matter is suited to cultivate a taste for the best in literature, and to awaken a desire for greater knowledge of all kinds. It will thus supplement the work done by the teacher. The books may be read in school hours if instructors so choose, or during intermissions, at the homes, or in those months when school is not in session.

Everyone is aware how tired children become of the old readers that have been in use year after year, and how they know many pages by

heart from hearing them read and re-read by successive classes. The teacher is often perplexed to know how to deal with a child who glibly repeats pages of the text book from memory, while not able to tell many of the words if tested upon them individually. It is obvious, that with new and interesting volumes there will come an eager desire for ability to read their contents. A new book lures a child as to "fresh fields and pastures new." Every teacher knows many a lazy boy who has been interested at last by some book of travel, or by the story of the world's history pleasantly told.

Too much cannot be said in favor of putting the best literature in the hands of school children. It means placing them under the influence of the best minds of this and other ages. It means bringing Ruskin, Hawthorne, Harriet Beecher Stowe, Hale, Wordsworth, and the scores of writers who have written for children into the school-room, and making them co-laborers with the teacher. It renders more effective the work of the best instructors, and one need only give the subject a passing thought to see how it will strengthen the weak places left by the inefficient teacher. It is impossible to calculate the benefit derived from even one book in a district school library, read as it will be by scholar after scholar, and taken into various family circles. The people of this country do not need to be reminded of how Abraham Lincoln pored over a few books by the dim light of a dying log fire, after others in the family had gone to bed. Franklin plying his trade with a well worn book in his hand, and Elihu Burritt at the blacksmith's forge, blowing the bellows with one hand and holding a book with the other, are familiar pictures to us. America's great men of the coming generation are now boys at school. What youthful Franklin or Lincoln is in our midst we know not, but we *do* know this, that it behooves the parents and guardians of youth to give the boys a chance. With this in view, the library law merits the hearty support of parents to whom the best interest of their children is paramount, as well as of every citizen who has the well-being of the state at heart. *

PHYSIOLOGY AS RELATED TO STIMULANTS AND NARCOTICS.

STUDY OF THE EYE—OBJECTS OF THE LESSON:—To teach that: 1. The visual apparatus consists of five classes of organs: protecting

organs, cleansing organs, adjusting organs, image-making organs and receiving or end-organs. 2. The protecting organs are the eye-sockets, eyelids, eyelashes, and the sensory nerves on the eye-balls. 3. The cleaning organs are the tear-glands, tear-ducts and eye-lids. 4. The adjusting organs are the three pairs of muscles which direct the eyes toward the object viewed; the iris, regulating the amount of light entering the eye, and the focusing or ciliary muscle. 5. The image making organs are the three lenses. 6. The receiving organ is the retina. 7. The image remains upon the retina a short time after light ceases to fall upon it. 8. Light falling steadily upon the retina wearies it, or makes it less sensitive to light. 9. We can see most distinctly when only light from the object viewed enters the eyes.

If we place a pencil across the face over the eyes in various directions we shall realize that they are so set back into their bony sockets that only angular or pointed objects can come in contact with them. Not only this, but the eyeballs are provided with lids whose muscles are so connected with the nerve centers of vision that when any object is seen coming toward the eye the lids may be quickly closed, thus preventing injuries to the ball. When we sleep, too, the lids are closed, partly for protection from dust, but also to prevent light from disturbing the mind, to give the muscles which move the lids time to rest, and to diminish the labor of the tear-glands. The eyebrows and eyelashes are two other provisions for protecting the ball of the eye. The eyebrows prevent perspiration from the forehead from running into the eyes, by either turning it to one side or causing it to drop from the ends of the hairs upon the cheeks. When the wind is driving dust into our faces the lashes enable us to keep the lids open a little way so that we can see through the lashes, while they, at the same time, ward off the dust. Further, to avoid dust collecting upon the eye, the outer coat of the eyeball is provided with nerves which render it extremely sensitive, making us uncomfortable at once whenever any foreign substance has lodged there.

Since we live continuously in air which always contains some dust, and since the eyes must be kept scrupulously clean, it follows that there should be a cleansing apparatus attached to the eyes. If we look at an object and try to avoid winking we shall find it impossible do so except for a short interval. When we get a particle of dirt in the eye we wink oftener, and at the same time the eye fills with water.

These facts in our experience indicate of what, in a general way, the cleansing apparatus consists, that is, of fluid-secreting organs and fluid-distributing organs. The tear glands are situated one in each socket, just above the outer angle of the eye; and each discharges by about six openings in the upper eyelid near the outer angle, and two just below the angle. If we notice the method of winking we shall see that it is done mainly by the upper lid, the fluid being poured out, and at the same time swept downward by the lid, thus flooding and sweeping the ball at the same time. But what becomes of these tears?

They do not ordinarily run down over the cheeks, and they cannot be evaporated because they contain salt, as we know from their taste, which would be deposited on the lids and balls, and we know this does not occur. In the inner angle of the eye are two small openings, by which the tears are drained into the tear sack, which discharges them into the pharynx, from which they are ordinarily swallowed. Along the margin of each eyelid there is a row of oil secreting glands which keep the edges of the lids oiled to prevent the tears from being drawn over by capillary action, and the potency of this provision is well shown when the eyes "fill with tears." A cold in the head frequently results in stopping up the tear canals, so that the "eyes run," but when we cry the tears are simply produced faster than the tear ducts can carry them away.

In order that we may see well the two eyes must be properly directed toward the object we are looking at. We have noticed that if, while looking at a distant object, we press the finger against one eye so as to crowd it a little to one side we see two images of the same thing instead of one. These needed adjustments are secured through three pairs of muscles, one turning the eyes straight up or straight down, one turning them from side to side, and one which, when acting singly, directs the pupil downward and outward, or upward and outward. If you will look at your eyes in a mirror while you move your head in various directions, you will see how quickly and unconsciously yet accurately these muscles respond and secure their ends. Hold your pencil at nearly arm's length before you and look across it toward a conspicuous object twenty or more feet distant, keeping one eye closed. You see the pencil also, but indistinctly. Now look at the pencil. In this case you see the pencil distinctly but the distant object indistinctly. Here there must be an adjustment also, and as the eyeball is not moved

the adjustment must occur within it, and is accomplished by the ciliary muscle about which we shall learn beyond. We have already experimented with the iris, and seen how by means of its circular and radial muscles a large or small opening is made for the entrance of light according as it is feeble or intense. The adjusting organs of vision then consist of three groups of muscles, one to direct the eyes so that we shall not see double, one to make the image sharp and clear, no matter at what distance the object viewed may be, and the other to regulate the amount of light entering the eye.

Secure a pocket magnifying glass, consisting, if possible, of two or more lenses, or a pair of far-sighted spectacles. Take the opposite part of a room from a window if it is day, or a light if it is evening, and hold the lenses between the light and a sheet of white paper, moving them back and forth until you have a distinct image of the window or light upon the paper. Now look at the window or light. While so doing you have on the back part of the inner side of each eye a picture similar to that upon the sheet of paper in every respect, except that it is much smaller and, relatively, brighter; the picture is formed in the same way and by a combination of lenses. How does a lens form a picture? While the image is on the paper move a card across the front of the lens close to it. No part of the image is destroyed until the lens is entirely covered. The image simply grows dimmer. This proves that light from every point of the window falls upon every point of the lens and passes through to the screen. Now place the card about half way between the lens and the image, and gradually move it upward from below. At first the lower part of the image is only made dimmer, but as you raise the card the lower part of the image disappears before the upper part. Now carry the card up nearer the lens. You must now carry it more nearly across before a part of the image disappears. Finally pass the card up nearer the image. The image begins to disappear sooner than it did with the card at either of the other points. These experiments prove that, while light from every point of the window falls upon every point of the face of the lens, after it passes through the lens in the direction of the light it is so changed that all of the light which passes through the lens from any one point of the window falls upon one point on the screen; and it is thus that an image is formed on the sensitive end-organs in the back part of the eye. When we touch our little finger we know it is not the thumb, because

the end-organs of the thumb have not been disturbed, while those of the little finger have; and it is the same way when we look at a face, for example; all the light from the nose then falls upon one set of end-organs, while that from the eyes, mouth and forehead falls upon other end organs, whose relative positions are just the same as those of the objects recognized. Now hold the lens so as to form an image of a chair, or other object in the room, upon the paper. Why can you not see it? An image is really formed, but so much more light from other objects falls upon the paper where the image is that you cannot see the image. The photographer, we have noticed, covers his head with a black cloth to shut off all light except that which comes from the image he wishes to see. It is on this account that the lenses of the eye and the end-organs or retina are set in a dark chamber. Close the eyes tightly and move the hand back and forth in front of them. You can see the hand as a dark object pass before the eyes. Spread the fingers apart and move them before your eyes when the sun or light shines full in the face. You see the shadows of the individual fingers. Stand with your side to the window so that you cannot see the sun while it shines full on the side of the face. Now close the eyes tightly and sway the body to and fro, so that the shadow of the sash will pass across the face. Each time you will see a dark shadow, thus proving that both the eyelids and the walls of the eyeball are not quite opaque. This explains why travelers on snowfields and on deserts find great relief by blackening the eyelids with charcoal or lamp black.

We have all produced the ring of fire by whirling a stick rapidly about having a glowing coal on its end. What does this experiment teach? Plainly that the image formed on the retina remains there for a short time. Slip a silvered bead upon the point of a lead-pencil and revolve it about a small circle in the bright sunlight just rapidly enough to cause the circle of light to be continuous, counting the number of revolutions in 10 seconds. The number of revolutions divided by 10 will indicate the time required for the bead to leave and return to the place again and thus the time the image remains upon the retina.

Fix the eyes steadily upon the meeting of two cross bars of a distant window during 30 seconds, and then turn the eyes quickly up to the white ceiling, looking steadily at some mark. You see the outline of window, but the sash bars appear light and the panes of glass appear dark or possibly colored if the sky is clear. Repeat the experiment,

and while looking at the ceiling open and close the eyes repeatedly in quick succession. Each time just after the eyes are closed the image is seen more distinctly than before. These experiments teach two important facts. When we have looked steadily at an object for a short time that portion of the retina upon which the image lies becomes tired, and those portions upon which most light falls most tired, so that when the eyes are fixed upon the white ceiling the least fatigued portion of the retina, where the images of the sash bars fell, now are more impressed by the light from the ceiling than the other portions are, and the image is therefore reversed in its lights and shades. When we close the eyes the image persist upon the retina for a time, as we have seen, and at the same time we exclude all the light from other sources which tends to obscure the image. It is as though we looked upon a ceiling in a dark room.

STUDY OF THE EYEBALL.—OBJECTS OF THE LESSON:—To teach that: 1. The ball is made up of three coats, outer, middle and inner. 2. The three coats surround three lenses, aqueous, crystalline and vitreous. 3. The outer coat consists of the sclerotic behind and the cornea in front. 4. The middle coat consists of the choroid behind the iris in front and the ciliary processes around the margin of the crystalline lens. 5. The inner coat consists of the retina extending forward nearly to the crystalline lens and with which the optic nerve is connected. 6. The crystalline lens is enveloped in a transparent sac—suspensory ligament —whose margins are in connection with the ciliary processes. 7. A muscular ring—ciliary muscle—extends around the eye, having its front margin attached to the junction of the sclerotic with the cornea and the other lost in the choroid behind. 8. The ciliary muscles by their contraction allow the crystalline lens to become more convex when we look at near objects.

The principal parts of the eye are among the easiest structures to demonstrate, by an examination of the real thing, of all those we have to study in physiology. Having secured the eye of an ox from your butcher, notice first the cushion of fat and connective tissue against which the eye lies in the socket, second, the muscles attached to the ball by means of which its movements are controlled, then the large optic nerve which enters the ball from the rear. Now with a pair of *sharp, fine-pointed* scissors clip a small hole through the coats of the eye about one quarter of an inch back of the edge of the cornea, then with the ball ly-

ing in the hand, barely insert the sharpest point of the scissors through the opening, and gradually cut a line parallel with the edge of the cornea four fifths of the way around the ball. Now lower the hand with the eye into a deep dish of clear water and turn the coats of the eye inside out, setting the vitreous and crystalline lenses free in the water. The coats of the eye may now be examined. Notice first the whitish, somewhat transparent retina which may have been separated from the other coats and only now held by its connection with the optic nerve. The choroid and sclerotic coats will be readily made out. In the front section of the eye notice the black lines or ridges which radiate from near the margin of the pupil; these are the ciliary processes. Notice the iris containing the pupil. Then, cut about one third of the way across the cornea along a diameter. Observe its thickness and try to tear it by pulling to see what great strength it possesses. Now pass the hand under the lenses in the water and gently raise them above the surface. Lower them again into the water, noticing that it is very difficult to see the vitreous lens under water. With the lenses in the palm of the hand observe by the touch, the consistency of the vitreous lens. Carefully separtate the crystalline from the vitreous lens, and examine it. If you have not mutilated this lens it will be possible to hold it by the suspensory ligament at its margin and allow it to form an image of the window upon a sheet of paper.

CARE OF THE EYES.—OBJECTS OF THE LESSON: To teach that: 1. To see best and with least fatigue to the eye we should exclude all light except that coming from the object viewed. 2. To do this the object viewed should be illuminated usually with light from the rear and above. 3. If working with the right hand the light should come from the left, if working with the left hand the light should come from the right. 4. The object viewed should be so held as to throw the regularly reflected light *away from* the eyes. 5. We should avoid using the eyes in too bright and too feeble light. 6. We should avoid looking at near objects during long intervals consecutively. 7. If we are either near or far sighted we should use glasses.

A person viewing distant objects places his hands above his eyes to shut off all light from the sky; and if we wish to look out of a window at night we go close to the pane and cover our eyes on both sides, so that no light from the lamp shall be reflected from the window into our eyes to obscure the image formed by the feeble light coming from the

object outside. Such facts teach that we should work with our backs to the window or the light. As our hand casts a shadow when we are using it, the light should come from the side of our hand our eyes are upon. All smooth surfaces reflect light to a greater or less extent as mirrors do. We have noticed that it is impossible to read from a clock or a blackboard when the light strikes them at a certain angle. Under these conditions we see simply a glare. Such reflected light does not help to form the image, and acts exactly like light coming from another source. It is a bad practice to place a printed page on a table between us and a lamp standing directly in front of us, even if both the light and the eyes are shaded, because the regularly reflected light is likely to produce a glare like that just mentioned. Too bright light may injure both the retina and the muscles of the iris which keep the pupil closed, while too little light tends to over-strain the opposite set of muscles in the iris. Our eyes are so constructed as to make it unnecessary for any muscles to be brought into action when looking at distant objects. When we look closely at near a object, however, the ciliary muscle must contract, so as to slacken the suspensory ligament and allow the crystalline lens to become thick enough to cause a distinct image on the retina; prolonged close work with the eyes then must tend to weaken and ultimately paralyze the muscles. Short and long sightedness are the results of defects in the eye which, in the first case, require objects to be brought nearer to the eye than is usual before they can be clearly seen, and, in the second, moved farther away. Sometimes one eye may require the object to be placed at one distance and the other at a different distance for distinct vision. In all of these cases glasses are required, and it is very unwise to try to do without them.

F. H. King.

THEORY AND PRACTICE.

AMERICAN HISTORY IN PUBLIC SCHOOLS.

[From "Circular of Information, No. II, 1887," issued by the U. S. Bureau of Education, and prepared by Prof. Herbert B. Adams, of Johns Hopkins University.]

DEFECTS OF HISTORICAL INSTRUCTION IN OUR SCHOOLS.—In most public schools, and in more than two hundred of our colleges, the study of American history is confined to the study of a text-book. This has

gone so far in our public schools that text-books pushed into the schools by energetic publishers have maintained their place though later and better books are now obtainable. An examination of the ordinary book of American history shows that about one-third of the volume is devoted to pictures, about two-thirds of the text to American history before 1789, and the remainder to the history of the United States; few maps are inserted, and these are too often so inaccurate as to be useless. In this brief treatment of the history of the nation, social history is omitted, the text is the chronology of politics. In the public schools American history is not taught, on the average, above five recitations a week—thirty minutes being the time for a lesson—and the total amount of this study averages not over six months in the school-life of the child. In some town and city schools it is pursued by a few pupils in the high schools for one year; but this is usually in connection with the general history course.

There are no special teachers of American institutions in American public schools. In these schools the prevailing method of instruction is as follows: The teacher assigns a fixed number of pages of the text-book to be memorized; pupils repeat the text in recitation; they are examined in the text, and the subject is dropped—usually willingly. This method prevails in large cities and in crowded schools, and is the *sine qua non* of every teacher who is compelled to hear lessons which he does not understand. It does not permit the use of different texts, because the teacher is required to get his pupils past a dreaded examination; for if a certain minimum is not passed, the school-board employs a new teacher to hear lessons. The result is that thousands pass from these schools with a brief mental incumbrance of names, dates, and isolated events. In later life this baggage proves valueless, and is cast away; and the man knows that the public school did him very little good when it tried to teach him American History. In some public schools no text-book is used; the teacher talks, and pupils take notes. The teacher, not being a special student of history, talks text-books on a small scale. The notes of pupils are disconnected statements swept together into a "table," which is memorized. The recitation is the "story" after the teacher, with unique variations by the child. The text-book abridges the larger work; the teacher abbreviates the text-book; and the child abbreviates the teacher. The results are a meagre amount of disconnected facts memorized by the pupil for a brief time,

and in later life the man is painfully conscious of his ignorance of American History.

Few public schools have libraries, and fewer a collection of historical books. Among them there is rarely a single book for reference in American history. Some teachers at times read to their classes selections from standard writers. This is unusual; time and the course forbid it. The extract is only the expansion of a single line, and other lines are equally important. In rare instances, the teacher, though not specially trained in history is fond of it, and is then in danger of public criticism for not preferring arithmetic. He gathers a few war histories, biographies, and text-books sent him by careful publishers, and with these not ineffective tools he succeeds in teaching a few facts, though the principal one is that the books do not agree.

In some schools—and they are few in number—whose classes have access to libraries, the teacher prescribes readings from standard authors. Pupils report these orally or by brief quotations or digests of authors read. Usually there are not enough copies of the prescribed books in the library for each member of the class. Thus the reading is done by a few who take a special interest. Sometimes, to avoid this, the class is divided into committees that work up separate subjects, and report results to the entire class. At stated times the teacher meets this class, and the results are worked together into a whole. The work is supplemented by the teacher with informal lectures. This is the first step in our preparatory schools toward the historical seminary. Children who are thus taught acquire a few ideas of American history which will stand the test of truth and the trial of time. In later life it proves to have been an intelligent introduction to a knowledge of American institutions.

These three methods—the text-book, the "story," and the seminary—represent the methods now in use in our preparatory schools. Incidental to them, but found only in the third, are class debates; reading of historical tales and poems; making maps, in clay relief or on paper in colors; collecting relics and curiosities; seeing plays acted; visiting museums and places of historical interest; and hearing lectures pertaining to the subject.

Of the pupils in the public schools 80 per cent. never reach the high school, and 95 per cent. never reach college. Of those who enter college more than 25 per cent. never take a degree, and usually drop out

before the junior year. After a somewhat careful study of the subject, the conclusion is forced upon one that in these schools for elementary instruction the study of American history, as at present conducted, is, with few exceptions, but time wasted, money wasted, energy wasted, history perverted, and intelligent elementary knowledge of the subject prevented. It is merely mechanical, and is such a manufacturing of opinion out of books that it is productive only of aversion to calm, unprejudiced examination of economic and historical questions daily arising in national life.

We are sensitive on the subject of our public schools. They are "the people's university." We boast of them to foreigners, and neglect them ourselves. Education is yet an affair of brick and mortar. Teachers and scholars are provided with buidings, often costly and elegant in design, but usually lacking every kind of apparatus for the prosecution of the work of education. The little teaching of American history in them is too often of a petty political nature—a mere brief of elections, administration, wars, and victories. But the real life of the people, as it is or has been, is not taught. The children know as little of the development of our institutions when they leave school as do the inhabitants of Lapland. The assertion that "man is a political being" is a plain statement, to most people during a Presidential campaign; but that men are political beings when no election is at hand means nothing to them. When it is known that our school population is 16,243,832, of which only 6,118,330 are in actual daily attendance; that among 293,294 public teachers, not one is for American institutions; that the children of the country remain in school, on an average, not over three years and a half; that only about one-fifth of those in the preparatory schools reach the high schools, only one-sixteenth the college; that only three-fourths of this number complete a college course; that sixty per cent. of the pupils in our schools are girls; that boys leave the school before they are eighteen years of age, and seldom attend school afterwards—the question becomes an important one when our system of public education does what it ought to teach the children of the nation the history of our institutions to the end that the generation in the schools may become citizens and voters of intelligence.

It is said by some that the incidental instruction from newspapers, magazines, books, lectures, sermons, and conversation is enough for training in citizenship. An answer to this is that technical instruction

is the only instruction that counts in the world; general information has little if any value compared with it; everything about something, not something about everything, has been said, with much truth, to be the *desideratum* in education. The tendency of the educational work of to-day is towards specialization. This may be our vast error, but it is our vast effort.

SUGGESTIONS FOR IMPROVEMENT.— In our public schools American history should not be so taught as to load the memory of children with the barren records of election, defeats, and martial deeds. Every American who becomes a true citizen enters upon responsibilities which he should have the privilege of studying before assuming. This is the just claim for American history as a study in the public schools. That study should be at first chiefly geographical and sociological. The child should be able to see from consecutive maps how the nation has grown, and has spread its power over this continent; he should be taught the social development of this people; how they have founded States, built highways, railroads, canals, steamship lines; how our commerce has grown and why it has grown; what we require to support ourselves, and where and how we raise it; what is the nature of our manufactures, and what the relations between employer and employed. Above all, the child should be taught the homely facts of history as they are about him. The village is the first subject for study; then the township, the city, the county, the State, the Nation. It is a just criticism that in the public schools we learned nothing of this, we learned nothing of the nature of the ordinary civil offices.

A child of ten years can understand the nature of the duties of an auditor, assessor, tax-collector, councilman, mayor, and of other local officers. In every locality he may gather material for local history, and thus form a foundation for the study of the community, the country, and the State. If all who attempt to instruct in American history could understand that our history exists outside of Washington and State capitals, and teach what children most need knowledge of, developing in their minds, by natural methods adapted to the child, the history of the nation—historical knowledge would be a power of which the child in later life would be thankfully conscious. Pupils in history should be taught to make historical maps. A series of these maps made to show the changes of America at intervals of ten years, from the discovery of the continent to the present time, if drawn, or at least colored by the pupil, will impress upon him certain historical lessons, that will remain

with him. The maps found in the last census of the United States are the best authority easily accessible. Outline physical maps of the country may be drawn by the pupil or obtained from publishers. These outline maps should not show other than physical features, nor necessarily show present State boundaries. The pupil will arrive at present boundaries as he proceeds in his historical constructions.

EDITORIAL.

ONE of the safest rules for subscribers to periodicals is to pay in advance. That saves you from the unpleasant surprise of a bill for arrears, and us from the unpleasant necessity of sending one. This is the third month in the new year, and we trust many of our readers will be ready to respond to this suggestion. The price of the JOURNAL is very low—so low that prompt collection is necessary to meet running expenses. We have had this year to send out many bills to delinquent subscribers, and shall soon have to send many more unless they relieve us of the duty by prompt payment. The amounts are small to each reader, but the aggregate is large to be carried by one managing the business. By a small payment each year you keep up your relations with the educational work of the state without feeling the expense, but neglect makes the cost seem large.

THE president of the Chicago school board advocates a radical change in the courses of study in the city schools. He notices that only four per cent. of those who enter the schools graduate from the high school, and a large majority of these are girls. But the scientific studies, which are now all deferred until the high school is reached, are of the most practical value to the boys in after life. Why limit the benefits to less than four per cent. of them? In his opinion these studies must be taught in the grammar grades, and to make room for them the trumpery work of the grammar school must be thoroughly cast out. The conditions specified are not confined to Chicago; in fact they prevail everywhere. Must not the remedy indicated be adopted? That grammar grade pupils can learn elementary science has been abundantly proved. That they enjoy it when properly taught has been also shown. That much now required of them is profitless, and is also distasteful, is well known. Under these circumstances must not the change come?

WHAT we mean by thorough knowledge needs to be carefully considered, because two distinct senses may be found in the phrase, and the confusion of them leads to false practices. Etymologically the word thorough is the same as the word through, and it would seem right therefore to say that thorough knowledge is through and through knowledge. This may be understood to mean a masterful grasp of some particular principle or process, so that we can

use it with readiness and accuracy whenever we have occasion to do so; or on the other hand it may mean a full and complete knowledge of all the relations, applications or implications of the principle or process. In the first sense a child who has been well trained in the fundamental operations of arithmetic may be said to have a thorough knowledge of addition, although he knows nothing as yet of the addition of fractions or of denominate numbers, for example. We refer in this case to the character of the knowledge rather than to its extent. We mean that he has a firm grasp of what he has learned, so that he can use it accurately and readily. This seems to be a legitimate use of the word, and the other notion which lurks in it may be properly denoted by the term exhaustive knowledge. If we hold to this distinction, we may say that it is the aim of elementary instruction to give thorough, but not exhaustive, knowledge. The common exhortation to learn one thing well must be interpreted in the same way. Well must mean thoroughly, not exhaustively, or it becomes an exhortation to make of every child from the earliest school days a narrow specialist. Life is hardly long enough to know one important subject exhaustively. And this may help us on to another uselful distinction—that, namely, between superficial and general knowledge. Superficial knowledge is knowledge which is not thorough, i. e. it is vague, loose and inaccurate. Such knowledge is of very little use, and the habit of mind to which it is due is very deleterious. But general knowledge of any subject is a knowledge of its more general truths, without that minute attention to the details involved which only a specialist can hope to acquire. Now this general knowledge may be thorough, that is it may be accurate and firmly grasped, but it cannot properly be said to be exhaustive. It is idle to talk of knowing one subject well as an aim of popular education, if we mean exhaustively; but if we mean thoroughly so far as we go, it is the only rational aim to be pursued. For giving breadth of mind, culture of all the powers, that many sidedness which makes life suggestive and adaptable, a general knowledge of many subjects is to be sought. Upon this as a basis should be built that approximately exhaustive knowledge of one subject which constitutes the specialist. What we justly condemn under the phrase "general knowledge" is vague, loose, inaccurate knowledge, that, in short, which is wanting in thoroughness.

It is to be regretted that manual training and industrial training are so commonly used interchangably. There is an easily recognized and important difference of aim which might be appropriately marked by a discriminating use of these two phrases, and by the current confusion of them we are liable to lose sight of the distinction. The first and most obvious suggestion arising from the use of either of the phrases is, a substitute for the old apprenticeship system—if you please, an expansion of that, conformable to the needs of these progressive times. Training for some forms of labor by which a livelihood may be acquired is here the fundamental notion. On the other hand we may think of the training as directed rather towards the general development of the pupil. It looks

not to a particular trade but to a cultivation of one side of his nature, that of manual constructiveness. His imagination is helped to conceive of combinations of material substances, and his hand to realize the conception through his own industry. He thus thinks of things instead of abstractions, and the effort to realize his thought makes it clear and accurate. This constructive impulse, as Froebel points out, manifests itself early in the infant, whose amusements and games are essentially constructive. Through it he grows into a clearer apprehension of the qualities and relations of things, and thus into real as distinct from abstract knowledge. To neglect this side of his nature is to destroy the symmetry of his development, and to make our education unnatural. Moreover, this is the side of his nature which is related to the practical activities of life, which makes him a producer, a contributor to the sum of human wealth and comfort; and therefore the side which practical regard for his own welfare and that of society should made us most solicitous to nurture. If through our persistently onesided training he becomes an unpractical dreamer have we not injured rather than helped him by our efforts? Now that education has become well nigh universal these considerations press upon us with increased force, since almost all of those in the schools must live by practical, not abstract or artistic thought and skill. The common schools are for the common people, and should prepare them for the common pursuits of life. At this point the two views we have been considering come together, and at this point a most important question arises: Is the public school to take on the duty of apprenticeship training? There is a tendency to apply the phrase "Manual Training Schools" to institutions, like that in Chicago and that in St. Louis, aiming to fit boys for important positions in manufacturing establishments. These are essentially trade schools, and at present they are not part of the public school system. Whether they are to be engrafted in it is an important and difficult question. "Industrial Training" on the other hand is more and more coming into use to designate those additions to the common school course which aim to cultivate the constructiveness of the pupils as a part of their general culture, and not as a preparation for some special pursuit or pursuits.

A WRITER in *The Nineteenth Century* asks the very pertinent question "Can English Literature be Taught?" He is writing of the English Universities, and declares that as a result of the experiments made in them "more than one eminent authority pronounces that it cannot be taught." When the historical side of it is emphasized the study degenerates into learning names and dates and bits of biography; when the critical side is tried manuals are memorized, and after examination are forgotten. Then we try the authors themselves, and our exercise degenerates into the merely formal—we study words—the philology; or the syntax and rhetoric, analyzing all the tropes; or the textual difficulties, discussing emendations and conjectures; or, in American schools at least, we go to ferreting out all the allusions, cumulate as much erudition as possible around the selection, make maps to illustrate its geography, if it has any,

—in short smother the literature under scholastic dust. All this is too true, and suggests Dr. Harris' remark: "What strikes us as especially noteworthy in the history of education is the predominance of the studies that relate to dry forms." Literature is a spirit as well as a form, and the highest good that can come of the study of it is to enter into that spirit, without which the form is but a cadaver. If the schools are concerned wholly with form studies it must be admitted that literature is, on the whole, a very improfitable subject for them. But are they thus limited? Our author gives some examples of examination questions framed to develop a true study of literature, of which this may serve as an example: "The epithet which best characterizes Shakespeare is 'myriad' minded.' Discuss that statement." To trace the development of the characters in one of Shakespeare's plays; to find in the "The Lady of the Lake" the nobleness and beauty of the highland life of Scotland mingled with its darker phases, so as to see all life more broodly for having read this; to develop the relations of the parts of a poem with each other, and the felicities of expression and treatment which make it a classic; these things are possible under skilled teaching—teaching founded on brood culture and a clear discrimination of the difference in methods, resulting from the entire difference of the ends sought, in teaching such subjects as grammar and arithmetic on the one hand, and history and literature on the other. Until this can be generally secured, it is much to get some classics read in the schools. The taste is elevated by them, and the mind is clarified, even though an examination test should show nothing by which to rank the student. The spirit grows by contact with what is excellent, even though our crass tests fail to show the growth. The one error above all others to be avoided in the teaching is dropping into the dry, formal drills, which kill the spirit and make the subject itself repulsive to the pupil.

OUR DRAWER.

READING CIRCLE MATTERS.

WORK FOR THE SIXTH MONTH.

ELEMENTARY. PAGE—pages 279 to 319. HISTORY—pages 183 to 203. PHYSIOLOGY—Chapters 14, 15 and 16.

ADVANCED I. QUICK—pages 177 to 226. FITCH—Lectures VII. and VIII. POLITICS—chapters XXVIII. to XXXVI. HISTORY—pages 520 to 539.

ADVANCED II. SULLY—chapters XI. and XII. BROOKE—to page 139. SWINTON—pages 289 to 365.

QUESTIONS FROM THE STATE EXAMINATIONS.

ENGLISH LITERATURE.

December, 1886.

1. Outline very briefly the history of the drama in England to the time of Shakespeare.

2. Write in ten or twelve lines the argument of Shakespeare's Merchant of Venice.

3 and 4. "The *quality* of mercy is not *strained.*
It droppeth as the gentle rain from heaven
Upon the place beneath; it is twice blest—
It blesseth him that gives and him that takes;
'Tis mightiest in the mightiest: it becomes
The throned monarch better than his crown;
His scepter shows the force of temporal power,
The attribute to awe and majesty,
Wherein doth sit the dread and fear of kings;
But mercy is above this sceptered sway;
It is enthroned in the heart of kings;
It is an attribute to God himself;
And earthly power doth then shew likest God's
When mercy *seasons* justice. Therefore, Jew,
Though justice be thy plea, consider this
That, in the course of justice, none of us
Should see salvation: we do pray for mercy;
And that same prayer doth teach us all to render
The deeds of mercy."

(*a*) Explain the words and phrases in italics. (*b*) Explain the relations of this passage in the play. (*c*) What is the subject of the plea? On what two considerations is it rested? (*d*) Trace the connection between the second and third statements; between the fourth and fifth lines. (*e*) What two important characteristics of Shapespeare's manner do you find in the passage?

5. Give some particulars of Milton's life and character. Name five of his earlier poems, and state in what respects they place him in contrast with the puritans generally. Name his three greatest poems and some characteristics of his poetic style.

6. State briefly the great service rendered by (*a*) Francis Bacon, and (*b*) John Locke to scientific thought.

7. Give some account of the literature of the age of Queen Anne, mentioning at least two poets and four prose authors of the age.

8. What remarkable change in the character of poetry occurred in the eighteenth century, and who were the leaders in it?

9. Contrast the styles of DeQuincy, Macaulay and Carlyle.

10. Give a brief account of some production by a distinguished American author which you have read.

ENGLISH LITERATURE.—1. HISTORICAL.

June 1887.

1. How did the oldest English verse differ in structure from that now written, and how did the present structure come in?

2. When and where did Chaucer live? Name some of his works. What other literatures influenced him powerfully? Why are his works so highly esteemed?

3. Tell what you can of early translations of the Bible, and their effect upon the language. How was our authorized version made, and when?

4. Name six of the chief writers of the Elizabethan Age.

5. With what great political movement was John Milton identified? Give some account of his life and works.

6. Tell what you can of John Locke and his writings.

7. Who were the chief writers of the age of Queen Anne? In what important respects do the poets of this period differ from the Elizabethan?

8. Give some account of the rise and growth of the English novel.

9. Name four great English historians, and give some account of their works.

10. Discuss the effect of the French Revolution upon the English poetry of the first portion of the present century.

Answer any eight of these questions.

ENGLISH LITERATURE.—2. CRITICAL.

June, 1887.

1. (*a.*) Give some account of Joseph Addison and his works. (*b.*) State as clearly as you can the qualities which entitle his essays to the place they hold in English Literature. (10.)

2. Which of Walter Scott's works have you read? Write a very brief account of one of them. (10.)

3. Contrast Byron's poetry with Scott's in regard to subjects, characters, and metre; and state clearly the characteristic merits of each. (10.)

4. THE PURITANS.—"The ostentations simplicity of their dress, their *sour aspect*, their nasal *twang*, their stiff posture, their *long graces*, their Hebrew names, the scriptural phrases which they introduced on every occasion, their contempt of human learning, their detestation of *polite amusements*, were indeed fair *game* for the laughers. But it is not from the laughers alone that the philosophy of history is to be learned. And he who approaches this subject should carefully guard against the influence of *that potent ridicule* which has already misled so many excellent writers.

"Those who roused the people to resistance, who directed their measures through a long series of eventful years, who formed, out of the most unpromising material, the finest army that Europe had ever seen, who trampled down

King, church and aristocracy, who, in the short intervals of domestic sedition and rebellion, made the name of England terrible to every nation on the face of earth, were no vulgar fanatics. Most of their absurdities were mere external badges, like the signs of freemasonry, or the dresses of friars. We regret that these badges were not more attractive. We regret that a body to whose courage and talents mankind has owed inestimable obligations had not the lofty elegance which distinguished some of the adherents of Charles I, or the easy good-breeding for which the court of Charles II was celebrated. But if we must make our choice, we shall like Bassanio in *the play*, turn from the *specious* caskets which contain only the death's head and the fool's head, and fix our choice on the plain leaden chest which conceals the treasure."

(*a.*) Point out, in the above extract, any peculiarities of diction, structure of sentences and illustrations characteristic of Macaulay. (*b.*) Make such comment as you think necessary on the italicised words. (*c.*) Point out and name the figures of speech. (*d.*) Tell what you can of the essay from which the extract is taken. (*e.*) Compare the style of Macaulay with that of Carlyle, (35.)

5. What works of Longfellow have you read? Give an analysis of "Keramos" so as to show (*a*) the subject, (*b*) method of treatment and (*c*) the chief subordinate topics.

"A nobler title to renown
Is thine, O pleasant Tuscan town,
Seated beside the Arno's stream;
For Lucca della Robbia there
Created forms so wondrous fair
They made thy sovereignty supreme.
These choristers with lips of stone,
Whose music is not heard, but seen,
Still chant, as from their organ screen,
Their maker's praise; nor these alone,
But the more fragile forms of clay
Hardly less beautiful than they,
These saints and angels that adorn
The walls of hospitals, and tell
The story of good deeds so well
That poverty seems less forlorn,
And life more like a holiday."

(*a.*) Describe the metre. (*b.*) Describe the figures, and justify the "there" at the end of the fourth line. (*c.*) Write a paraphrase of the passage. (*d.*) Parse grammatically "these" in the tenth line, and "saints" in the thirteeth. (*e.*) Explain how the thought of the last line can be true. (35.)

The numbers in parentheses at the close of the questions indicate the full credit which will be given for each.

ENGLISH LITERATURE.—HISTORICAL.

December, 1887.

1. What do you understand by the "Elizabethan Period" of English literature? What are its chief characteristics? Name eight authors of this period, and some of the works of four of these.

2. Give some account of the rise of the English drama.

3. Outline briefly the life of John Milton, and name his chief poems.

4. When did John Locke live? What special services did he render as a writer, and by what works?

5. What is meant by the "Augustan Age" of English literature, and why so called? What are its characteristics? Name six of its authors, and some of the works of three of them.

6. Give some account of Addison's works.

7. Name the first four famous English novelists, and give some account of Fielding.

8. What change in the subjects and style of poetical composition is noticeable in the so-called romantic poetry? Name some of the authors of this.

9. What great historians appeared in the eighteenth century? Name four of the nineteenth century.

10. Who constitute the so-called "Lake School" of English poetry?

ENGLISH LITERATURE—CRITICAL.

December, 1887.

1. What view does Mr. Emerson present of the originality of Shakespeare, and the sources of his dramas?

2. Compare the characters of Brutus and Cassius in "Julius Cæsar," and give proofs of your view.

3. *Cassius:* Well, Brutus, thou art noble; yet, I see,
Thy honorable metal may be wrought
From that it is disposed: therefore it is meet
That noble minds keep ever with their likes;
(5) For who so firm that cannot be seduced?
Cæsar doth bear me hard, but he loves Brutus:
If I were Brutus now, and he were Cassius,
He should not humor me. I will this night,
In several hands, in at his window throw,
(10) As if they came from several citizens,
Writings, all tending to the great opinion
That Rome holds of his name; wherein obscurely
Cæsar's ambition shall be glanced at:
And, after this, let Cæsar seat him sure;
(15) For we shall shake him, or worse days endure.

(*a*) Paraphrase lines 2, 3 and 4, so as to show clearly their meaning. (*b*) What

figure in 2 and 3? (*c*) Does the reason in 3 and 4 reflect to the credit or discredit of Cassius? How? (*d*) Explain line 6. (*e*) What is the meaning of *humor* in line 8? (*f*) State the meaning of lines 11 and 12. (*g*) Show the connection between the last two lines. (*h*) What does this soliloqy show us of the character of Cassius, and the part he plays in the drama?

4. Tell what you can of the style and subjects of Bacon's Essays. Give some of the suggestions of the essay "Of Studies," with quotations if you recall any.

5. What have you read from Dryden? What from Pope? What are the chief characteristics of Pope's poetry? Draw a comparison between Pope and Dryden, after Johnson as much as you can.

6. Ill fares the land, to hastening ills a prey,
Where wealth accumulates and men decay:
Princes and lords may flourish or may fade,—
A breath can make them as a breath has made;
But a bold peasantry, their country's pride,
When once destroyed can never be supplied.

(*a*) Give some account of the poem from which these lines are taken, and the occasion for writing it. (*b*) Point out the antitheses in the passage. (*c*) Distinquish and name the figures of speech. (*d*) Name and describe the verse in which it is written, and re-write the first two lines, marking the feet and the caesuras.

7. State what seem to you the most striking points in Taine's characterization of Lord Byron as a poet.

8. Tell what you can of T. B. Macaulay as an author.

IN THE SCHOOL ROOM.

SOME TEACHING DEVICES.

In Geography.—I collected all the illustrated or engraved railway time-tables, steamboat schedules, and other travelers' aids that I could get my hands on. I then took these to school and without explaining my purpose, at recess began cutting out the engravings or pictures in the presence of the children who had lingered about me. Without any spur on my part, they inquired my object, and were soon eager to help. That was the way in which I wished to secure their help. I gave the work into their hands, and after they had made some progress, I picked up a picture, *borrowed* a pair of scissors from them, and corrected the inaccuracies of their work without comment. They observed silently but attentively, and were thereafter most scrupulous and exact, of their own volition. Then I measured off heavy manilla paper into cards upon which to paste the pictures, leaving a margin of attractive width on all sides. All the cards were made of the same size for convenience in handling. This work also was soon turned over to pupils and became arithmetic and manual training in

their blocking out the cards, and moral training as well, considering the scrupulous care used. Soon some pupils were blocking out the manilla paper, others cutting it into cards, a few cutting out pictures, and still others pasting the pictures. This work was carried on for over a week. The end gained in all this was their interest in the study, and in providing means for its pursuit, and their evident satisfaction and happiness in *creating* the apparatus. The ultimate, and perhaps greater end, was that attained in the use of the completed cards.

The use of the cards is only limited by the fertility of invention of the teacher. Two ways only are suggested. Let the class have possession of, let us say, the pictures of Long Island Sound, the Palisades of the Hudson, Niagara Falls, the Horseshoe Curve on the P. R. R., the Capitol at Washington, Mount Vernon, and with a given starting point assigned, as Fall River, Mass., show on their map of the United States how they would plan an imaginary trip, taking in the points named. Let them tell all they know of what they can see as they go along, (as tributary streams, large cities, etc.,) whether they travel by rail or water, etc. Any teacher can handle the exercise without further explanation. A second exercise: Give out one picture to each two pupils. For a combined geography and language lesson, let them write what they see in the picture, or what might take place in connection with it. Have them read, and for *your* benefit, as well as theirs, take notes of their best ideas. Other exercises may be invented.

It will do no harm to suggest means of getting such pictures. If you teach in the city, you can easily get out-of-date time-tables at the railway offices, by asking for them. If you teach in the country, some railroad man may help you out. Do you know a book agent? He can get from his house a second hand geography or several of different kinds, and they should not cost you more than ten or fifteen cents apiece, and possibly nothing at all, for they are sold by large publishing houses as old paper. And you can add materially to your store of pictures by cutting up these books.—*Educational News.*

IN HISTORY.—A pleasant as well as important aid to the history lesson may be found in the various poems into which an historical fact has been woven. I may mention two of these poems—Campbell's "Hohenlinden," and Tennyson's "Charge of the Light Brigade." What better ideas of the "terrible blunder," the hopelessness of the charge, the heavy loss at Balaklava have we, than are conveyed by this poem?

Byron's "Waterloo," Scott's "Marmion" and "Lady of the Lake," Shakespeare's historical plays, all owe their interest largely to the use of poetry in delineating historic events.

Why not then, as far as possible, use historical poems in the class room? In the history of our own country, short poems, such as "Warren's Address," or "The Song of Marion's Men," may serve to illustrate lessons; longer selections like "Paul Revere's Ride," "The Landing of the Pilgrims," "Sheridan's Ride," "Barbara Frietchie," "All quiet along the Potomac to-night," etc., furnish excellent recitations from the platform for Friday afternoon exercises. The poems

just mentioned, by their easy transposition into prose, afford good subjects for composition day. Another useful history exercise, in combination with the composition work, is to require, members of the class to read "Evangeline," "Courtship of Miles Standish," or "Gertrude of Wyoming," and to reproduce in their own words, the substance of the poem read.—*New York School Journal.*

IN PRIMARY READING.—The "Word game" is played in this way. A pile of small cards on which words are printed is placed in the centre of the table. The child who can tell correctly the most words on the cards until the centre is gone is the victor this time. But one word is given at a time. If the child does not know the word given to him, the card is put back in the centre pile and another given.

I have tried the plan and found it useful for several reasons. Other ideas are suggested by it. Instead of using printed words I write the words that occur in the reading lessons on little slips of paper. If, however, a teacher prefers the printed words the most inexpensive way would be to buy a reader and cut it up.

IN PRIMARY ARITHMETIC.—In reciting, the little folk are first drilled on the composition of the number 10, and of the teens, and then they are led to see $5 + 6 = 11$, because that $5 + 5 = 10$; and 5 and 6 would be one more; $7 + 9 = 16$, because $7 + 10 = 17$; $17 - 8 = 9$, because $17 - 7 = 10$, $17 - 9 = 8$, because $17 - 10 = 7$.

IN SPELLING.—A child learns best how to spell a word when he wishes to use it, and the wise teacher will constantly create that want. When a word is written in black or white, it stamps itself much more firmly upon the mind than when merely committed to memory. In writing, the hand forms the word, and the child will long remember just how he formed it, and its appearance on the board or slate.

IN primary spelling work, the teacher may make rough sketches of different objects on the board, and ask the class to write the names of these upon the slates. If any do not know the spelling of a particular word, write it on the board. After this the pupils may be asked to tell what they can about these objects, and a short description of each may be written on the board and copied on the slates. The sketches may be of a number of objects that are connected, and about which a short story can be made. This will give the class practice in invention. It will not take much skill on the part of the teacher to make these sketches, even if his knowledge of drawing is limited.

SUGGESTIVE PARAGRAPHS.

—The French professor came in to take his place. He was a tall, strong, broad-shouldered man, considerably older than his predecessor, his thick, black hair and beard and his bushy eyebrows making him look like some old general.

Taking up a book he asked, "Why, where is the lesson to-day?" Receiving an answer, he says, "O! yes, I remember; why this is a hard lesson; now I shall catch some of you if you have not studied faithfully;" and he chuckled over his book like some old Santa Claus. The lesson begins. The translation is difficult for these little girls, and at first they translate badly. "Well," says the old professor, laughing, "this French language is almost too hard for you, isn't it? "O, no!" they exclaim in a chorus, "we can translate it; we like to do it," they add, and one of them volunteers to recite. She is not at all sure of her ability and translates the first sentence with some hesitancy. The professor encourages her by saying, "good." In the next sentence, she gains confidence and he says "better;" then slowly but without one mistake she translates he rest of the long and difficult passage and sits down in triumph, while the teacher says, "My dear child, that was very fine."

The children are now not only ready but anxious to recite; some of the smaller ones, not being able to hold their hands as high as the others, arise to their feet. I feared at times in the course of the hour that some of them would climb on their desks. Once or twice the professor says, "Why, if you will not be more orderly I will have to punish you;" but he does not mean it, for there is a sly twinkle in his eye. He loves their enthusiasm as much as they love his presence. He knows too that he is the cause of it, and that by the means of it he is able to make the lesson mere play for them, while otherwise it would be drudgery."— *Teaching and Teachers in Germany in Ohio Educational Monthly.*

—That is an old story of the school-master who applied for a country school, and on being told that his employment depended upon what he proposed to teach in regard to the shape of the earth, replied that he should teach it round or square just as the district ordered. But a similar tale could be told of more than one school in every county, and probably in every township, in the State. We call to mind an instance of a young lady in one of the best educational counties of Illinois, that is to-day teaching children to read by the old elementary spelling-book process, because she does not dare to use a better method. When the county superintendent expressed his surprise that one who was familar with a better method should follow so poor a one, she replied that the school trustees demanded that she should teach as they dictated. The way they themselves had learned was good enough for their children. And the county superintendent was powerless to countermand this order, or protect the teacher in pursuing a better method. We must establish such an organization of the schools of the township as will give the power to determine matters of detail in the method of instruction to officers competent to decide such questions. Let the principle of division of labor be applied to the management of the schools.— *Illinois School Journal.*

—"I studied grammar when in school, but did not like it and had no interest in it, because I did not understand it and saw no use in it. We had plenty of diagramming, analysis and parsing, but my progress was not commendable and

my "grades" were always low. After leaving school, I attended a school for musical instruction in Pittsburgh. There I was thrown in company with a large number of young persons. I soon discovered that friendly personal criticism of each other's language was the custom of the school. Errors in grammar, in pronunciation, and in the structure of sentences were criticised without mercy. This was among the pupils only, as the school gave no instruction in grammar or rhetoric. The effect on me was wonderful. I learned more about how to speak and write correctly in six weeks there than in all my school life together. I formed the habit of examining my own language and that of others with a view to determining its correctness, and of studying to secure the best and most accurate forms of expression; and that habit remains with me. But I also found that much of the work I did in grammar in school came back to me in a new light, and what was once meaningless became helpful."—*Ohio Monthly.*

SOME USEFUL CURIOSITIES.

In Articulation.—Practice in uttering difficult combinations is excellent, and young people take much interest in trying such as the following. They rival the famous Peter Piper's peck of pickled peppers:

Gaze on the gay gray brigade.
The sea ceaseth, and it sufficeth us.
Say, should such a shapely sash shabby stitches show?
Strange strategic statistics.
Cassel's solicitor shyly slashes a sloe.
Give Grimes Jim's great gilt gig-whip.
Sarah in a shawl shovelled soft snow slowly.
She sells sea shells.
A cup of coffee in a copper coffee-cup.
Smith's spirit-flask split Philip's sixth sister's fifth squirrel's skull.
The Leith police dismisseth us.
Mr. Fisk wished to whisk whiskey.—*Ex.*

In Spelling.—If these rhymes are a trifle lacking in sense they serve well to emphasize the different ways of spelling words having the same sound but a different meaning.

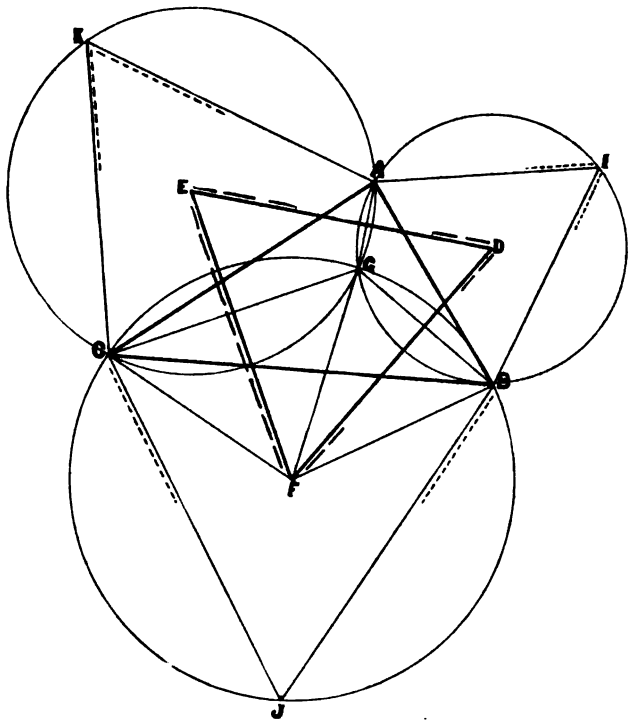
A pretty deer is dear to me,
  A hare with downy hair;
I love a hart with all heart,
  But barely bear a bear.
'Tis plain that no one takes a plane
  To pare a pair of pears;
A rake, though, often takes a rake
  To tear away the tares.
All rays raise thyme, time razes all;

And through the whole, hole wears
And writ in writing "right" may write
It "wright" and still be wrong,
For "wright" and "rite" are neither "right,"
And don't to write belong.

MATHEMATICAL SECTION.

THAT GEOMETRICAL PROBLEM.

Mr. W. W. Jackson, of Whitewater, sends the following proof of the proposition in Geometry submitted in January JOURNAL.



Let A B C be the given triangle; construct the three equilateral triangles whose centers are D, F and E; join those centers; required, to prove D E F an equilateral triangle.

Draw C G, a common chord of circles E and F, join G with A and B.

Angle C G A is inscribed in arc C G A which is ⅓ of the circumference of

circle E; hence angle C G A equals 120°. For same reason C G B equals 120°. Hence A G B equals 120°. If G is *within* circumference of D, it is measured by more than ½ of A I B and hence is greater than 120°. If outside of the circumference of D, it is less than 120°. Neither supposition is true, hence G is in circumference of circle D, and G A and G B are common chords.

D F, joining centers of intersecting circles is perpendicular to common chord, and bisects it and also bisects angle G F B. In like manner E F bisects angle G F C. Therefore E F G + G F D = E F C + B F D = ½ of C F B = 60°. In same way it can be shown that angles E and D are respectively equal to same angle. Hence E F D is equiangular and therefore equilateral.

(Point G may be within or without triangle E F D, or on E F, according as angle A C B is less than, greater than, or equal to, 120°, but in each case A G B is easily shown to be equal to 120°.)

Credit is also due E. E. Beckwith for a solution based on a second set of equilateral triangles.

T. B. PRAY.

WHITEWATER, WIS.

OUR BOOK TABLE.

HILL'S ELEMENTS OF PSYCHOLOGY.

THE ELEMENTS OF PSYCHOLOGY, by David J. Hill, with illustrative figures. Sheldon & Co. 419 pp.

The wonderful progress made during the last fifty years in the study of psychology is at length manifesting itself in the books prepared for class room use. This development has been slow in making its appearance, but it has come at length as a result of the renewed interest in the study, and this interest, for the present, is due to the discovery of the practical value of psychology as affording a basis for a science of teaching. We may therefore take these books as proofs that teaching is rising from pure empiricism to the position of a profession. Prof. Hill's book is of special interest from the plan pursued in it. It is not merely a system of psychology, setting forth its author's conclusions on the most important points of science: it is this, but it is also very much more. He says: "By a careful application of this method (of introspection) by many observers, there has been accumulated a body of accepted facts universally admitted as verifiable. It is this *consensus* alone that renders any science possible." The advice often given to teachers to construct a psychology for themselves by reflecting on the operations of their own minds is singularly fatuous. Reflect, indeed, and verify from your own consciousness what you read, but unless you consider yourself keener and wiser than all the rest of mankind, do not fail to get what help and suggestions you can from studying the science as it has been wrought out by others. Mr. Hill's book makes a large use of this

comparative method. He himself is an intuitionalist, belonging to that school of philosophy which he calls dualistic realism; but he has presented, on all the chief subjects, the most important views of all the leading modern psychologists. So far as we have been able to discover this has been done with great skill and admirable brevity. The plan has its disadvantages, making his book complex and difficult to read except by practiced thinkers; but it introduces the student, who has the patience to master it, to the study of psychology as it is; familiarizes him with the great problems of philosophy, and the views of different thinkers upon them; and helps him to appreciate the significance of the matters on which there is general agreement, by showing him in some measure how this has been attained. Great pains have been taken in the preparation of the book to help the student to a ready apprehension of the relation of its parts. It is very systematically arranged, skillfully divided into chapters and sections with appropriate headings, and brief analytical summaries provided at the close of each chapter. The use of two kinds of type separates the more essential matter from the comment and discussion, and catch words in full-faced letters throw out upon the page a brief outline of each subject. In fact, nothing has been omitted which could help the student in his effort to master what is set before him. The references at the close of the chapters lead the reader to the most important sources of information in the English language. In general the style of the author is clear and precise, although we have marked a few passages in which he seems to have fallen short in clearness. He recognizes that by "faculty" we mean nothing more than a way of working of the mind, yet he occasionally slips into such misleading sentences as this: "If phantasy fails to reproduce ideas of the past, memory must fail to recognize them." He has sought, after each great division of his subject, to develop its bearings upon the science and art of teaching; and these sections, though excellent in what they say, will be felt to be all too brief and meagre.

—NILES'S ADVANCED GEOGRAPHY, Mathematical, Physical, Political, (D. D. Merrill, St. Paul, 134 pp.) merits attention from those engaged in teaching this branch by reason of several important innovations upon the usual plan of geographical text books. Mathematical and physical geography are made to precede the political. In the first the student is put upon observing and thinking for himself instead of merely memorizing statements. In the second the general features of the globe are discussed; then climate as determined by latitude, elevation and local conditions, together with winds, rainfall, ocean currents, etc.; the distribution of animal and plant life upon the globe is next treated, and traced in its relation to the physical causes determining it; finally political geography, as ordinarily taught, follows, and is both more intelligible and relieved of many details by the discussions preceding. The pupil is throughout made to think for himself, to see the causes and relations of things, and thrown as much as possible upon his own resources. The plan will commend itself to

intelligent teachers, and it has been intelligently worked out by the author. The book has been admirably issued by the publishers. The maps, plans and illustrations are numerous and very excellent, and the printing and binding are thoroughly admirable.

—The REPORT OF THE COMMISSIONER OF EDUCATION for 1885-86 is somewhat smaller than the volumes for preceding years, but is not inferior in interest and importance. Of its contents we have only time to specify the valuable summary of state school laws, the notes from College Catalogues, the summaries of reports of city superintendents, and the list of educational publications of the year.

—We are indebted to Supt. James MacAlister for a copy of his valuable CATALOGUE OF THE PEDAGOGICAL LIBRARY in the office of the superintendent of public schools, Philadelphia. The catalogue is classified under thirty-two different titles; where necessary, brief descriptions of contents are appended to the titles of books; and references are made, in connection with volumes mentioned, to important articles in leading periodicals bearing upon the same subjects. The book shows an astonishing development in Philadelphia of interest in pedagogical studies, inasmuch as the whole library has been brought together during the past four years. In itself it is a very serviceable bibliography of education.

—Number 32 of *The Riverside Literature Series* is devoted to President Lincoln, and called THE GETTYSBURG SPEECH AND OTHER PAPERS. It opens with Mr. Lowell's essay on Lincoln, and contains further the first and second inaugurals, the letter to Horace Greeley, that to dissatisfied friends, and the speech in Independence Hall.

—LECTURES ON THE SCIENCE AND ART OF EDUCATION, by Joseph Payne, (E. L. Kellogg & Co.; 343 pp. $1.00) presents in very attractive and convenient form a valuable and well known work. The marginal headings to the text; the full analysis of each lecture added at the close; the extensive index to the volume,—are all features of great utility; while the clear print and large margins make the book a pleasant one to study. Teachers who are not familiar with these lectures will find this the best edition for their use.

—To their "Reading Circle Library" E. L. Kellogg & Co. have added two small and practical treatises by James L. Hughes, inspector of schools at Toronto. The first is MISTAKES IN TEACHING, especially valuable to young teachers, as pointing out the common errors into which beginners fall. The other is HOW TO SECURE AND RETAIN ATTENTION, which is discussed in a very simple and practical way. The book presents incidentally a good deal of the philosophy of teaching, and may be heartily commended to the attention of teachers. Each 40 cts.

—A QUIZ BOOK ON THE THEORY AND PRACTICE OF TEACHING, by A. P. Southwick, (C. W. Bardeen, Syracuse, N. Y.; 220 pp. $1.00,) presents in the form of question and answer a glance at the principal topics relating to teaching the common school branches. The form of presentation seems to us unfortunate,

but we find the matter of the book in general judicious, and there are some who will grasp its principles more clearly because each is put first in the form of a question. The arrangement of topics is systematic and progressive.

—INTRODUCTION TO PHYSICAL SCIENCE, by A. P. Gage, (Ginn & Co., 353 pp.) presents its subjects in a somewhat more elementary way than did the author's Elements of Physics. "Read nature in the language of experiment" is Mr. Gage's maxim, and he proposes that the pupil shall for himself test every principle presented. "An experience of about six years in requiring individual laboratory work from my pupils has constantly tended to strengthen my conviction that in this way alone can a pupil become a master of the subjects taught." The laboratory need not be extensive, and even with large classes the author has found it necessary only in exceptional cases to duplicate apparatus. The experiments are rather more numerous than in his previous work, and more of them are quantitative, while in the general arrangement and treatment of the topics there is some improvement observable. The book seems to us an admirable one for high school work.

—WHAT WORDS SAY, by John Kennedy, (Kennedy & Co., N. Y.; 176 pp. 35 cts.) presents the subject of word analysis on a new plan. It discards the arrangement according to the languages from which roots or syllables are derived, and follows an alphabetical order. Those having the same prefix or root are thus brought together, and are thoroughly analyzed by pointing out the meaning of each part of each word. Definitions are appended to these tables wherever necessary. The plan puts the pupil upon analyzing words at once, and makes him find out their meanings without regard to the linguistic affinities of their parts.

—LESSONS IN ENGLISH GRAMMAR, by Alfred H. Welsh, (John C. Buckbee & Co., Chicago; 237 pp., 70c.) follows the inductive plan of presentation, beginning with the study of a sentence to find the parts of speech, and passing on to inflections only after these are thoroughly learned and classified. The plan of treatment is original, simple and effective, abundant exercises are provided, and the student is constantly stimulated to reflect and learn by his own observations.

—The series of TEACHERS' MANUALS issued by E. L. Kellogg & Co. are deserving of hearty commendation. In neat paper binding they are sold at 15 cts each, and are thus within the reach of every teacher. Three are by J. G. Fitch, whose Lectures on the Art of Teaching have met with such well deserved favor: these are THE ART OF QUESTIONING; THE ART OF SECURING ATTENTION; and IMPROVEMENT IN THE ART OF TEACHING. The last is the least satisfactory. The series contains besides an admirable paper by Arthur Sidgwich, ON STIMULUS IN SCHOOL; PRACTICAL WORK IN SCHOOL, by Charlotte M. Yonge; and OBJECT TEACHING, by J. H. Gladstone. To anyone sending us a new subscriber to the JOURNAL we will forward any one of these manuals requested.

—Some excellent selections for recitations and dialogues in grammar schools

will be found in RECEPTION DAY, No. 6, (E. L. Kellogg & Co.) They are bright, varied and wholesome.

—FAMILIAR AMINALS AND THEIR WILD KINDRED, (Van Antwerp, Bragg & Co.) is an almost ideal supplementary third reader. The matter could hardly be made more attractive, and it is at the same time instructive and suggestive, while the illustrations are very accurate and very beautiful, and the mechanical appearance of the book all that could be desired.

—LITTLE POEMS FOR LITTLE CHILDREN, compiled by Valeria J. Campbell, (Interstate Publishing Co., 203 pp.; 75 cts.) is full of delightful little pieces,—poems, mottoes, proverbs, maxims. They cast over the fields and flowers and changing seasons a light and warmth of human feeling which will refine and ennoble those who are made participators in it.

—Appleton's EDUCATIONAL CALENDAR will find a place, we hope, on many a teacher's desk. Each leaf carries the dates of a week, and also three or four short paragraphs from writers on education.—THE STUDENTS CALENDAR, issued by E. L. Kellogg & Co., puts five dates in a leaf, and for each a brief sketch of some distinguished man born on the day. The design of the calendar is very pleasing.

—Two new issues in D. C. Heath & Co's "Monographs on Education" are ENGLISH IN THE SCHOOLS, by F. C. Woodward; and, ENGLISH IN THE PREPARATORY SCHOOLS, by E. W. Huffcut, (25cts each.) The first is essentially a discussion of the value of English grammar as a disciplinary study; while the second, after a hasty glance at what should be done in teaching English grammar, gives its main stress to methods of teaching composition in the schools.

—HOW TO SUCCEED AS A STENOGRAPHER, (Fowler & Wells, 25c.) discusses practically why and how to learn short hand writing, and how afterwards to turn the art to account.—UNIVERSITY DEGREES, by F. S. Thomas, (C. W. Bardeen, Spracuse, N. Y.,) tells what they are—and they are many—and what they signify.—STORIES FOR LITTLE READERS, by Emilie Poulson, (Intersate Publishing Co., 10 cts.) is a supplementary reader for primer classes.—THE SCHOOL ALBUM, by W. A. Fairbank, (S. R. Winchell & Co., Chicago, 30 cts.) contains beautiful songs for day schools, in three parts, designed for primary, intermediate and grammar grades. An excellent collection.—A. S. Barnes & Co. issue in very attractive form THE ART OF PENMANSHIP, designed to accompany their new series of writing books, and containing suggestions for acquiring a good style of writing.—THE INTERSTATE PRIMER SUPPLEMENT, (Interstate Co., 25 cts.) is an excellent supplement to any first reading book.

MAGAZINES AND PAMPHLETS.

—*The Popular Science Monthly* for March is noteworthy for the interest of its articles. David A. Wells discusses the labor question effectively; Mr. Speir maintains that the mind is always active even in sleep; Pres. White in his series on the warfare of science discusses the attempt to reconcile scripture and

geology; Mr. Daubree writes of the distribution of underground waters etc.

—Among the attractions of the March *Century* will be the story of "Col. Rose's Tunnel at Libby Prison" told by one who assisted in digging it. This is one of the supplementary war papers.

—*Education* for February opens with Dr. Harris' discussion of the Educational Pendulum, which swinging back and forth seems to him to be an indication of vitality. The glaciated Areas of the Ice Age; The Colored Race in Missouri; The New School Law in New Hampshire; A Study in Elementary English are other articles.

—O. W. Holmes effectively illustrates the result of paying authers by the page in his Over the Teacups in the March *Atlantic*. Mr. Shaler's discussion of The Law of Fashion traces to the instinct of imitation the prevalence of fashion in dress, ornament, architecture, etc., and this instinct to sympathy with our fellow brings. Olive Thorne Miller's Virginia's Woving is a bright shetch of a cardinal bird's doings. The serials maintain their interest and the criticisms and essays are excellent.

—*Wide Awake* (D. Lothrop & Co., Boston, $2.40 per year) offers in the February number a delightful sketch of The Children of John Adams, and one not less interesting of Rosa Bonheur and her paintings. Paul H. Haynes' last production, The story of am Ambuscade, a border balled, also appears in this number with much else that is interesting and entertaining. The December number opened with The Star Bearer, a very striking poem by E. C. Stedman, and the January number had a ballad by Whittier. The monthly deserves its name and is worthy of a wide patronage.

—For such an article as that of Prof. Shaler on Volcanoes in the February *Scribner* one might be willing to pay the subscription price of the magazine. It is a model popular scientific article. The monthly is rapidly growing in favor and subscribers to the JOURNAL can obtain it at especially favorable rates. See our clubbing rates.

LITERARY ITEMS.

—Of the cheap libraries the report of the Third Assistant Postmaster General says that they are an abuse of the postal laws. By issuing them serially and in paper covers the publishers are enabled to send them through the mail as second class matter, at the rate of one cent a pound, whereas Bibles, school books and all the publications of reputable book houses are obliged to pay postage at the rate of 8 cts. per pound. Tons of books are thus shipped in ways not intended or anticipated in the law, and at a great loss of income to the post office department.

—The death of Asa Gray at Cambridge, Mass., Jan. 30, removes one known to most teachers of this country as the author of a valuable series of text books,

and to men of science as one of the most untiring and enthusiastic students of nature. Two years ago, on his seventy-fifth birth-day it was arranged that he should receive notes of congratulation from every American botanist, accompanied with a beautifully embossed silver vase. His delight over the remembrances was great. Among them were these lines from James Russell Lowell:

"Just fate, prolong his life, well spent,
Whose indefatigable hours
Have been as gaily innocent
And fragrant as his flowers."

—Commenting on the fact that the centenary of Lord Byron passed (Jan. 22) unnoticed outside of Greece, the *Nation* says of that poet: "He was a poet; he was a force, also, that spent itself partly in creating a world wide affectation, and partly in rousing and reinforcing the impulse of individual liberty on the continent; but he is a poet no one can love, and he left a memory that no one can admire, and there is none of his works that receives the need of perfect praise."

—Senator Hoar recently said of the poet Whittier that he should be called "the voice of New England." He has been the poet of the home, and of the school house, and of the church spire. The church bells heard beyond the stars, mingle their notes with his song."

—Ginn & Co., will issue in April an interesting *Introduction to the Study of the Middle Ages*, by Prof. Emerton of Harvard University. It will be well supplied with maps and references. They also promise very soon an *Introduction to Chemical Science*, inductive, simply, accurate and thoroughly teachable.

D. C. Heath & Co., promise *Schiller's Ballads* with notes and introduction by Henry Johnson.

NEWS AND NOTES.

—Of the twenty-one institutes provided for in the State Superintendent's list for this spring only two are for a longer period than one week. This is not an accident, but the application of a view of the function of the institute which has been gaining ground in this state for some years. This view maintains, negatively, that the institute is not a school. Its object is not to make up deficiencies in knowledge of common school branches which may exist among the teachers. There are now in the state other and sufficient agencies for accomplishing this. Neither is its mission to teach to those attending the theory and art of teaching. They are required to know the elements of this before they can secure a certificate, and it is the county superintendent's fault if his examinations do not sift out and reject all those who are grossly ignorant in this matter. At least so much as a complete knowledge of Page's Theory and Art of Teaching may reasonably be exacted by every superintendent as a prerequisite to receiving a certificate. By such an arrangement both candidates

and examiner may understand clearly what is expected, and the tests can be made as satisfactory as those in the history of the United States. The institute has for its object to quicken the interest of teachers in their work; to keep them alive to the great progress which is making in school teaching; to stimulate communities to renewed interest in education and in the improvement of their schools; and to strengthen the *espirt du corps* of the teaching body. One week of vigorous work, with a full attendance of those who ought to be present is believed to be better adapted to securing these ends then a longer period with such conditions as are found too prevalent at long institutes. It is hoped that the response of teachers to the new arrangements will be general and hearty. Teachers cannot afford to miss these gatherings.

—A circular of the National Education Association announces the general railroad rates to San Francisco and return. From Boston the rate is $97.15; from Chicago $72.50; from Missouri River points, $60.00. The purchaser of a ticket at these rates must name the return route he wishes and be ticketed both ways. Stops can be made at principal intermediate points within the limit of time allowed, and on the return trip at points west of the Missouri River. These are "single passenger rates." Many roads are in the habit of making "party rates" or "carload rates," and special train rates," but these must be arranged for by those interested, as the work cannot be done through the President of the Association. Teachers interested in the meeting should correspond with the Directors for their own state. Those for Wisconsin are Pres. T. C. Chamberlin, Madison, and Miss Rose Swartz, Oshkosh.

—The sessions of the Association open with addresses of welcome on Tuesday, July 17; Wednesday A. M., the theme is Literature in the reading course of the public schools; evening: How to prepare law-abiding citizens. Thursday A. M., Current criticisms of our school system; evening: Practical education. Friday A. M. The relation of the state to school books and appliances; evening: What is needed in our school system to secure respect for common labor or wage-working. The department subjects are varied and important.

—The volume of proceedings of the National Educational Association at Chicago last year has been distributed. It contains 829 pages, and is worth much more than the two dollars charged for membership in the Association. The volume shows how varied and important the interests discussed at this gathering are, and affords one of the best means we knew of for studying the drift of educational opinion. The treasurer's report show a total income of $3,666,13, of which $2,396 was obtained from 1,198 annual membership fees. This sufficiently shows that all the crowd gathered at Chicago did not enroll as members of the Association. A unique feature of the volume is the eighteen pages at the close devoted to the comments of the Chicago press on the Association. All who joined the Association are entitled to receive this volume, and it will be sent free of charge to every member who sends his address to the secretary, James H. Canfield, Lawrence, Kansas.

—Prof. H. D. Maxson, of the Whitewater Normal School, has resigned his position as Institute Conductor, to enter upon the ministry. Prof. Maxson has won for himself the warm regards and appreciation of all who have know him as a teacher in this state, and he will have their best wishes for his prosperity in his new field. Prof. Maxson retires after the close of the spring institutes,

and Prof. T. B. Pray has been appointed to his position in the school for the coming year.

—At the meeting of the Board of Regents of Normal Schools held in February some important measures relating to the schools under their charge were adopted. The following resolutions relating to the course of study were passed:

Resolved, That the Presidents of the several Normal Schools are hereby directed to prepare and submit for the consideration of this board at the next annual meeting a course of study of one year for the several Normal Schools, which shall include in its general features the following:

1st. Admission upon examination upon branches required by law for a first grade county certificate, after three years' successful teaching.

2d. A review of the fundamental elementary branches, viz: reading, writing, arithmetic, grammar and geography, with special reference to methods of instruction, and purposes and aims in their use.

3d. A course in school management, especially ralated to organization and classification, discipline and courses of study.

4th. A course in physiology, with special reference to the effects of stimulants and narcotics.

5th. A course in psychology which shall clearly include a classification of the mental faculties, and a study of these with reference to the laws and means of their development.

Resolved, That the course herein outlined shall, if adopted, be advertised as a strictly professional course, and entitle the person to a diploma from the school in which such course may be pursued.

Provided, Graduates from a regular four years' course of the University of Wisconsin, or other college having equivalent course, and having had one year's experience in teaching, may be admitted upon presentation of diploma.

—At the same meeting the following resolution relating to admission to the advanced Course of the Normal School were also adopted:

Resolved, That persons applying for admission to the Normal School at Milwaukee, or to the advanced course at any other Normal School in Wisconsin, shall present satisfactory evidence to the President of the school of having completed the four years' course of study for free high schools, prepared and published by the State Superintendent in 1883, or one of the three year courses of the Milwaukee high school, or an elementary course in one of the State Normal Schools. *Provided*, that with the certificate or diploma of such free high school, or of the Milwaukee high school, acceptable evidence must be furnished that the following branches or subjects have been pursued by the applicant in the high school course:

1. Arithmetic, English grammar and composition, algebra, plane and solid geometry, physics, physiology, physical geography, English literature, drawing.

2. American or constitutional history and English history.

3. Latin or German at least one year, or in place thereof rhetoric, etymology, and English classics, for at least one year.

4. Biology or chemistry, or in place thereof botany or zoology.

Resolved, That applicants not furnishing satisfactory evidence, prescribed in the foregoing resolution, shall be required to pass a satisfactory examination upon the branches named as required to be included in preparatory high school courses.

Resolved, That persons having completed higher or more extended courses of instruction than that required for admission, and having scholarship and abilities superior to those required of applicants to enter the third year or junior class, may be admitted to the senior class upon certificates or diplomas satisfactory to the President of the school.

—It is with sincere sorrow that we record the death, at Elsinore, California, of Mr. A. P. Delaney. Mr. Delaney was a graduate of the Whitewater Normal School, and had taught with much acceptance in several high schools of this state. Last fall he accepted the principalship of the high school at Columbus, and in spite of failing strength continued in the discharge of his duties up to the first of November. Then he felt compelled to resign, and went as soon as possible to California, in hope that the milder climate would enable him to regain his vigor. But that hope has been disappointed. It is but a few months since his sister, who had been for many years a teacher in the Whitewater Normal School, quite suddenly passed away. The brother has follow in a similar manner, leaving those who knew his faithfulness, courtesy, hearty kindliness and promise to mourn his untimely loss.

—The time of the meeting of the next session of the Wisconsin Teachers' Association has not been fixed, and some difficulty attends the fixing of it. The fourth of July falls on Wednesday, and it seem impossible to hold the Association the week previous as many schools will still be in session. To delay it until the week following would interfere with the plans of those who wish to go to San Francisco. It seems probable therefore, that the Association will be in session on the fourth of July.

—District school No. 12 at National Home, Milwaukee county, publishes a dimuintive weekly paper, in which the pupils take much interest.

—The high schools at Black River Falls, Burlington, Brodhead and Mineral Point have lately been added to the accredited list of the State University.

—An interesting exercise at the Waukesha institute was that on Philosophy for the Common Schools, by Prof. Bevan, of Milwaukee. He dwelt on the desirability of inserting the elements of that study in even a primary curriculum, it seeming at least reasonable that some knowledge of mechanics and of the natural forces around them is as important to future citizens as the art of using tenses correctly or a knowledge of Japanese geography. He illustrated by simple experiments some of the possibilities in that direction, and he opened to the teachers new fields capable of being made of the greatest interest and instruction to the average pupil. He also suggested to the teachers some easy and cheap apparatus for such experiments, that can be manufactured at home with little trouble—the Leyden Jar for instance, being perfectly substituted by a plate of common glass with bits of ten-foil glued on either side.

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UNPROFITABLE WORK IN THE GRADED SCHOOLS.

In discussing the subject assigned to this paper, I am met at the outset by a consideration dismaying to the heart of a veteran. One who has watched the course of thought in educational circles has witnessed a curious phenomenon. He has heard serious questioning on every hand of the propriety of spending time upon many branches taught in graded schools, yet to-day he sees these same topics and methods absorbing as much time and energy of pupils and teachers as at any previous period.

So it is in no sanguine mood that your committee stand forth to utter one more protest against educational abuses which have long seemed an essential part of our highly vaunted public school system.

But protest—however ineffectual—is plainly a duty so long as there remain abuses to be corrected. The facts which confront us appear to be these—in most graded schools eight years are devoted to work, which, although quite successful in filling up the time, fails to properly prepare the pupils for further mental culture in school or out of it. The work of the high school is sadly hindered by lack of proper development on the part of candidates for admission, while the universities and colleges are forced to spend much valuable time in bringing the intelligence of pupils up to a point where they may profitably undertake true college work. Meanwhile the elements of natural science, the accurate and graceful use of our mother tongue, and some knowledge of practical affairs, while their claims are freely conceded in conventions, are crowded out of courses of study. Primary, high and normal schools

are linked together in maintaining a state of things which no teacher in his thoughtful moments can approve.

But even should we concede the high value claimed for the line of instruction at present marked out in primary education, it would still be fitting to inquire whether other subjects may not offer better opportunities for right mental development. Because the course is already so crowded therefore each topic to be retained must be subjected to both of these tests. For teachers and pupils have not hours enough in the day to do well the work that is already thrust upon them, and however desirable other lines of work may seem to be, they cannot be inserted until place has been made for them by rejecting something else.

In entering upon the inquiry as to what shall be dropped from the list, we must first fix upon some standard of judgment to which we may constantly refer, and I know of none more universally accepted than the three-fold one of utility, discipline and culture. Of every subject we may ask, "What is its practical value—on the bread winning side?" "What is its training power?" "What is its culture value?"—its power to widen the sympathies for all that is best and truest, and quicken the apprehension.

It may be allowable to observe, however, that the true plan of teaching will not find it necessary to make use of a study solely for the sake of the discipline which a hard compulsion may force upon pupils, but in subjects which commend themselves because they contain matter useful and interesting, a far better discipline may be obtained as a necessary consequence of real mental activity. So that it would seem unnecessary to maintain a distinction between culture and discipline since real culture cannot but secure the best mental discipline.

But let us examine the subject-matter of the present curriculum by the tests first proposed; not, however, taking the time to specifically apply each of these to every branch discussed, but basing the entire discussion upon the considerations, and leaving him to apply them, who challenges our conclusions.

In what is designated language lessons and English grammar a fair examination will reveal but a grain of language in a bushel of grammar, the thought seeming to be that English grammar is something that the youth *must* have at any cost and as soon as possible, and so under the beguiling name of "language lessons" the work begins. I need not speak of the worst forms of such work—and yet they are most

commonly met with—but stop only to ask what reason can be given for undertaking it at all. If we would teach children to speak and write with ease and accuracy, we must keep this purpose constantly in view. But some one may say that a great deal of composition is required by these books thus named "language lessons." Yes, that is true, as for instance, when the pupils are directed to make ten sentences, each containing a noun, and such astonishing results ensue as these: "I see a cat," "I see a dog"—"The cat ran."—This is far less profitable, though less taxing to the mental powers, than "angling for an idea with a single word for a bait," and for directness of purpose reminds me of the man who owned a clock. A neighbor remarked to him that it didn't seem to be right. "Well now," replied its contented owner, "that clock's all right,—fact is, nobody understands that clock but me. When it strikes twelve and the hands point to two, *I* know it's twenty minutes to seven." When such work is dropped from our primary courses, then may come in *real* language work, in which the pupil shall learn to use words, not as seeking to adjust the blocks of a puzzle, but in order to express ideas which are to some extent the product of his own mind. Such effort as this will quicken the inventive faculty and commend itself to us in all respects as being of practical value, meeting the ends of discipline and of culture: and abundant material for such most desirable training is already present in most school rooms, in the readers and supplementary reading matter geographical and historical. Again, as to grammar, it is the opinion of your committee that only so much grammar should be retained as will prove convenient for logical and thought-analysis. The present requirements in this study involve a sad waste of time. Children must needs memorize definitions and nice distinctions in the uses of words which their immature minds can in no way make their own, and which if they could, would profit them nothing—and for what? In order that they may be able to parse and analyze the English language? But to turn from the carefully selected sentences of the grammar to a page of any good prose or poetry and expect to make head way by the same system, is as if a bicyclist, learning the paved streets of our cities, should attempt to make his way through the bogs and hills of the Kettle Moraine, across lots.

Pupils need no elaborate system to enable them to do the best work in analysis. Even a knowledge of the parts of speech is sometimes a

positive hinderance, as with keenest interest they set out to determine the relation to each other of the ideas contained in a stanza of poetry or a paragraph of prose. The use of a word may be quite clear until they seek to name the part of speech. Suppose the sentence to be "He ran up a bill at the store." What shall be done with "up"? Evidently it is the complement of the verb, a part of the predicate, but at once they are paralyzed by the reflection that an adverb cannot be in the predicate.

I have already indicated what grammatical work is, in my judgment, of the highest value—that of *logical* analysis, in which the pupil takes the words of a sentence as they occur, and names at once their relation of thought to other words, avoiding useless repetition by omitting articles and those adjectives which, in the text, immediately precede their nouns, and dealing with a phrase as a unit, unless some unusual feature renders an analysis desirable.

That I may not be misunderstood I will briefly illustrate.

In dealing with the familiar lines:

> "To him who in the love of nature
> Holds communion with her visible forms
> She speaks a various language."

We should expect the pupils to take up the analysis as follows:

"To Him," is an adverbial phrase modifying the verb speaks;—who, is a pronoun, the subject of the predicate holds communion;—in the love of nature is an adverbial phrase modifying holds communion; with her visible forms, an adverbial phrase modifier of holds communion;—sequence than the logical; that in these stages, the child needs far more to know the combinations of numbers, and how to combine and separate them with facility and accuracy, than he does to be able to see the logical relations of a given set of conditions; but, has the committee considered what a sudden transition they assume the child to make in passing from this work to that indicated as appropriate for "more mature pupils"? Surely as a preparation to enable the pupil successfully to grapple with "*problems promiscuously arranged*" considerable training in that logical mode of thought that comes from the solution of problems is essential. While on the one hand running too near the modern educational Scylla of "no work for the little ones," the report veers close to the Charybdis of "over-work" in the presentation of matter for the upper grades. Except for purposes of review, the miscellaneous arrangement of pro-

blems is of very doubtful utility. It cuts off the opportunity to get at a classification of logical relations; for the mind of the learner is at sea among a mass of ever varying conditions; and the psychological effect is very like that produced by the learning of isolated geographical facts which the report so justly condemns.

It seems to me this association may safely adopt the report on language as presented. Would it not also be well to enter a protest against the introduction too early of a text-book on language to be used by the pupil? These so-called "Language Lessons" are for the most part only an attempt to dilute and sweeten formal grammar to the taste of "the little dears;" they emphasize unduly the *form*, giving but little training to develop that thought-power which must furnish the *content*; their compilers seem to have surveyed the educational field rather from the financial than the pedagogical point of view; and so have given us not hand-books to guide the teacher, but books which if used at all must be in the hands of the pupils.

As to the lopping off of "extras" in reading and spelling—extras which too often lead to a sort of touch, taste and go exercise, in which almost every subject of human knowledge, *except* reading and spelling is "sampled"—the suggestions are wise and timely. But a certain feeling of misgiving haunts me here. How many teachers will interpret

ERRATUM.

On account of a printer's error in making up the first form of the JOURNAL this month, which was not discovered until we were ready to commence mailing, readers will have to observe carefully the following directions:

On page 152, at line 26, insert the matter commencing with the second line of page 156 and running to the nineteenth line of page 162 inclusive.

[illegible] geography, all terrestrial globes, orreries, planetaria, and other expensive playthings that turn with a crank are appliances which the teacher who knows the subject does not need, and in the hands of him who is not qualified they are far worse than useless. Let the illustrative work here which calls for physical apparatus beyond a simple globe be eliminated.

In history, cut out all memorizing of the text, and most of the memorizing of dates. An eminent authority on the teaching of history

has declared that forty dates are enough for the student to memorize in all human history. Perhaps this is an extremely low estimate, but surely we might be satisfied with twenty dates in the history of our own country.

But, ladies and gentlemen, this is nothing but nibbling around the edge. Why not have the courage to cut deeper? Undoubtedly there is much unprofitable work in the graded schools that ought to be eliminated; but why seek for the unprofitable matter and method with a microscope? Why waste so much effort in trying with a bit of sand-paper to smooth off a few jagged corners of the educational structure, and ignore the great mass of unprofitabe matter whose excision will require strong, vigorous and courageous blows with mallet and chisel?

Shall I specify particulars? Briefy, then, the excision most imperative, as it seems to me, includes.

1. *As to method:* Fully nine-tenths of all "concert recitations."

2. *As to time:* All the time now spent in school by children under six year of age.

3. *As to matter:* All foreign languages in grades below the high school.

And, since the report has extended beyond the limits indicated in the title, I may be permitted add.

4. *As to management:* All martinetism, including the red tape items in monthly and other reports.

Silas Y. Gillan.

BOOKS FOR SCHOOL LIBRARIES.

The library law enacted by the last legislature is attracting attention outside of those schools for whose benefit it was passed. The signs are promising that a general interest will soon be aroused in behalf of providing instructive and interesting reading matter for the children in all our schools, thus making the library an important factor in our educational work. The movement is an important one, and deserves the support of all who desire the success of our educational system.

School libraries should have two objects. They should aim to cultivate in pupils a taste for good literature, and to supply material supplementary to the text books in use. It is hazardous to put into the hands

of children a sharp-edged tool without a caution against its dangers, or instruction as to its use. Imparting the ability to read and then turning the child into the world of books, without providing safeguards of taste and habit against the flood of pernicious reading matter that may engulf him, will prove disastrous in the majority of cases. In view of the "yellow covered literature," of the "nickle libraries," and the murky tide of papers and books that is sweeping in upon us daily from all sides, it seems meet that our schools should take up the work of forestalling these dangers, and of giving some guide to our children that shall keep them safe from evil reading when the day comes for them to choose books for themselves.

The formation of good literary taste is clearly within the scope and proper limits of school work. The task is not hard. It may be accomplished by the expenditure of four or five dollars a year in the average school. In these days useful books are cheap, and a small sum of money will procure a dozen or fifteen volumes that will, when passed freely from child to child, establish in the ordinary district school a proper taste for the best literary productions. Like the leaven that was hidden in the three measures of meal until the whole was leavened, so a small amount of the best reading matter, circulated freely among the children, will create a sentiment in its favor throughout a school.

The value of supplementing text books with additional information on kindred subjects, ought to be considered. Learning by rote from well worn histories and geographies has about it so much that is purely mechanical, that pupils pursue their studies in these subjects in a dull, listless way that leads to little progress. Give to the child in the second reader a supplementary book of the same scope yet dealing with different topics, and he will learn to read better because of the pleasure he finds in it. To the boy who is idly bending over his geography, pretending to learn the names of the countries of Africa, give Stanley's Dark Continent, or Baker's Albert Nyanza, and geography is no longer a dreary waste of mere names and half-understood sentences. Coffin's Old Times in the Colonies, Hale's Life of Washington, and Higginson's American Explorers, will make the text book of United States History more intelligible and more interesting.

Supplementary reading not only tends to the awakening of greater interest in school routine work, but it leads to habits of investigation. Let children once know that there is more to learn on any subject than

they find within the covers of the text book, and they will surely dis-
She speaks a various language, the principal statement. At first such analysis may be somewhat in detail, but experience will show that very soon many statements become merely mechanical—are perfectly evident to all of the class without effort on their part, and hence should not be retained to clog the progress of real thought-provoking analysis.

Let the work be swift and a constant challenge to thought, and make the construction square with the sense, at whatever risk of injury to preconceived notions of grammatical classification.

The grammar necessary for this should be taught, as also the small amount needed to serve as a test of accuracy in speech. But this need not occupy more than a few months of time when pupils are ready for it. Every one who reads well for others, really analyzes what he reads, distinguishes principal from subordinate ideas, and by his tone so marks each clause and phrase and word as to make evident its relation to the rest of the sentence. This, then, is an excellent basis from which to proceed, giving names to the parts examined as fast as the names shall seem to be called for, and proceeding to classify, not from definitions, but inductively, by an examination of the uses of the words themselves. From this point, and in this way, classification may proceed as far as the amount of time may warrant.

The study of geography has obtained its very prominent place in our courses of instruction because of the great practical value supposed to attach to it. But thoughtful teachers are now generally indisposed to acknowledge such a claim. Can anything possess a high practical value that so soon passes beyond the reach of memory? Test the results of the present work in geography by inquiring what portion of the mass of details committed to memory by patient child hood is retained by young men and women who have been ten years out of the school room. In both high schools and normal schools it is observed that pupils who have neither taught nor studied geography for three or four years have mostly forgotten what it took them so long to learn.

Those who champion this irrational and wasteful work urge that by it the memory is finely trained. But how can this be? The memory is strengthened by what it retains, and not by what is so soon forgotten. As to the culture value of such work it is sufficient to suggest that if teachers do all the work required by the present curriculum no time is left for such high purposes. Therefore to your committee it seems de-

sirable to very greatly reduce the amount of geographical instruction now given to pupils in graded schools. After they are introduced to the subject by means of conversation upon the local geography—which should be restricted to that portion of city or country which they have seen,—then by making a diagram of this they should be taught what a map is, and, by use of a molding board or the sand of the school yard, they should be taught to map physical features. During these and the following years suitable narratives of travel and exploration, and extended descriptive reading illustrated as fully as possible, should be freely used in ways best adapted to the comprehension of the class. Maps should be constantly used for reference, and pupils should be led to realize that a good map conveys much information other than merely indicating location. In geography it is of superlative importance that pupils should be keenly interested in their work, otherwise the imagination will be very little enriched by the study, and the ten or twenty lines of bald statement descriptive of a country are but little calculated to secure that end. The attention should be held to one country or section long enough to secure a real interest in its people, its scenery, native animals, and other such topics.

Much work in composition should accompany this, serving both to focus the ideas gained, and afford a valuable exercise in language.

Your committee would therefore recommend: 1st, that in geography only those facts should be insisted upon which are necessary to use as central points of interets in commerical intercourse, history, literature and in general reading. This should include a knowledge of the oceans, the continents, with their most striking physical features, the location of the most important political divisions, the metropolis of each, and such other important facts as may be included in a very brief list. Let this be mastered as thoroughly as is the multiplication table, making use of maps and rapid sketches showing the relative position of places and their physical features on the blackboard.

2nd. We believe that not much time should be spent in the laborious study of outlines and the boundaries of political divisions, including the very careful mapping of the same.

3rd. The descriptive text should not be memorized verbatim, nor should the mind be burdened with statements concerning population, productions, etc., that in a few years must prove valueless even if remembered—statements, also, concerning soil, climate and produc-

tions of each political division should be disregarded, and only a summary given of the chief characteristics of a broad section of country, regardless of boundary lines of states or empires. Beyond this, and supplementing and illustrating the whole, there must be an abundance of geographical reading, connecting mountain and river with human interests, touching the sympathies and the imagination while illuminating the intelligence of the child.

4th. Physical geography should serve to explain the facts of political geography; it should also be more directly studied through the elements of science, which should have a place in every elementary course of study.

In regard to reading and spelling time only permits the bare suggestion that "extras," or subordinate exercises, should be sparingly used, and that they should be kept strictly subordinate, in order that the attention may be concentrated upon the subjects themselves.

At present arithmetic occupies the place of a full study during the entire period of the school life of the child before entering the high school. The main purpose of the study is to give accuracy and facility in such operations as occupy the attention of the citizen in business life. A large element of discipline comes as a result of training with such ends in view. The faculties of memory and reasoning are chiefly exercised. It is not necessary, however, to admit, as formerly was true, that arithmetic is the only study in the common school curriculum that exercises the reasoning faculty. Observation and thought-power can be strengthened more profitably by means of elementary science, which should occupy some of the time now devoted to arithmetic without gaining the accuracy and facility which should be attained. It is the conviction of your committee that the results are not satisfactory for the reasons that the methods followed have not been clear, definite, insistent; that too much attention has been given to operations of little interest to the children and of no practical advantage in later life; that much time and energy have been wasted in the solution of difficult, impractical and impossible problems, to the neglect of rapid mental exercises that would result in quickness and accuracy of manipulation of the practical problems of life. By eliminating certain parts of arithmetic entirely and relegating the study of these to the high school, by insisting upon absolute accuracy in the fundamental principles, by exacting numerous mental exercises that will not over tax the reasoning faculty but give it

moderate and healthful exercise, we shall be able to satisfy all the requirements of the common school, save valuable time for other important exercises, and gain the accuracy and facility demanded in practical affairs.

It is recommended, therefore, that the following topics be omitted from the courses of study for grammar schools, viz:

1. Longitude and Time.
2. Exchange and Compound Interest.
3. Equation of Payments.
4. Mensuration of sphere, cylinder pyramid and cone.
5. Complex problems in Interest.
6. Compound Proportion.
7. Involution and Evolution, unless it be in its simplest form in the last year.
8. Arithmetrical and Geometrical Progressions.

Facility in the making and use of all business forms, receipts, notes, drafts, etc., should be insisted on.

Second. That mental exercises should be given constantly in practical problems, the aim being to stimulate the child to grapple with relations in number that are constantly presenting themselves to men of affairs, and to enable him to think of these relations or conditions independent of the aids of pencil, paper, and rules.

Third. Suggestions as to method. Fix the early concepts of number clearly by means of the use of objects. The majority of teachers are over ambitious at the beginning and proceed too soon from the idea of numbers to their symbols. Work slowly, patiently, determinedly and understandingly with the child during the first two years. There the question of success is to be solved. Be content to labor with the combination of the nine digits until accuracy is acquired. Facility will come later. Nearly all the mistakes of later life come from want of accuracy in the use of the nine digits in their varied possible relations.

Begin the work with parts of things early. It is possible and advisable to lead children to the ideas of halves, thirds, and fourths in the second year. The following year simple additions and subtractions of fractions with the same denominator can be made by the child as easily as the addition and subtraction of integers. During the same years interest the child in practical measurements, thus laying the

foundation for mensuration later. Use the measures pint, quart, gallon, peck; inch, foot, yard. With these units form many practical, conceivable examples for mental exercise. By the end of the third year expect accuracy in the addition and subtraction of the nine digits. By this time also the multiplication or division table should be developed to the nines at least. Multiplication, as well as its converse division, is largely an exercise of memory. Insist therefore that such combinations as usually disconcert children shall be taken slowly, but fixed as clearly and indelibly upon the mind as the combination of letters that forms *hat*. Among these are 7×6, 8×7, 7×9. The same caution should be exercised in learning certain combinations in addition, as $7 + 6$, $6 + 9$, $8 + 7$, $7 + 9$. As soon as the class has acquired accuracy within a certain range then push for quickness. Remember that both accuracy and facility are the results of exercise, and that the combinations in addition and multiplication at the middle of the period of school life should be made automatic, the mind responding as quickly when the stimulus is given in number as it does when the stimulus is given by the use of an ordinary word.

From the third year on children should have frequent reading exercises in arithmetic to gain power of interpreting thought. The mind should not be taxed at that time with the mechanical solution of the problems. As a rule it is wise to develop principles and have frequent exercises before formulating rules. There is not the same life-giving activity in solving problems under a rule that has just been memorized. Where such a method is followed children show helplessness in solving miscellaneous examples. A vast deal of time is thus wasted in working through the pages of classified problems. There should be little of such work, and very much work in problems promiscuously arranged, thus leading the child to think of a problem for what it contains in itself, the teacher assigning easy problems that illustrate the conditions required, until the child's thought-power has waxed strong enough to grapple with the ordinary examples of life that may be solved by the application of principles with which he is familiar. It is of more vital importance for him to know how to think out the problem than to know that it belongs under a certain case of a certain rule. Have the courage to omit from a lesson the assignment of a problem that will require hours for the average child to solve, and be alert to detect any *memorizing* of the processes of difficult problems.

In conclusion we desire to say that it seemed impossible to confine

the discussion to the point of elimination; for, in examining materials with reference to dropping them out, they must be compared with what it is considered best to include, and the method of instruction must also, for evident reasons, receive some attention.

We are not unmindful of the fact that a wise and judicious teacher, untrammeled by arbitrary authority, may do very excellent work with the course of study as it exists at present, but we all know that most of the teaching in these subjects is done by teachers who are not able thus to omit, select, subordinate and illuminate the materials placed before them.

A. R. SPRAGUE,
J. J. MAPEL,
L. D. HARVEY.
Committee.

I confess my hopes are not sanguine that a very large practical outcome will follow this report or its discussion. The average, mediocre teacher can do something with his routine plans, without them he is lost; and after all the excision we may make by subtraction from without, the half educated teacher and the untrained supervisor will still remain mechanical workers, as likely as before to work empirically with whatever may be left. The only way to eliminate unprofitable work along the lines indicated in this report is to eliminate the unprofitable workers; and this cannot be done at one stroke. By strict vigilance on the part of those who are the legal door-keepers to watch the entrance to the teachers' profession, by holding out to the weakest of those already in the allurements of other occupations, and by persistent effort in the work of educating the actual and prospective teachers, some tangible results may eventually be attained in securing more profitable, rational work.

Meanwhile it will probably do no harm, and may do some good to have the graded school curriculum passed under critical review, to the end that it may be pruned of whatever it contains which is unprofitable. With some of the points made in the report, I heartily agree, and with most of it my judgment is in substantial accord. But I should be glad to hear a few of the recommendations elucidated a little further.

The position so ably maintained by Guyot that so far as geography is a science at all it is based upon physical facts and phenomena is undoubtedly correct; but since the possibilities do not admit of the pupil's

learning these by actual investigation, what remains if we take away map questions and descriptive text? True, the descriptive text is usually too meagre to inspire much enthusiasm, and some map questions have little or no educational or practical value; but it depends much on the *kind* of questions and text whether they are to receive such sweeping condemnation. If our committee could have thought it prudent to condemn those text-books in this branch which are compiled in defiance of pedagogical principles, they would at least have struck a blow that would have raised the dust from certain rubbish that is labeled "geography."

The recommendation in regard to arithmetic should be carefully scanned and considered before going out to the teachers of the state as the deliberate judgment of this association. Are we ready to declare in favor of that freak of sentimentality recently taken in Boston which would practically eliminate applied arithmetic from the graded schools? Are we to commit ourselves to the maudlin doctrine that only the very easy, the entertaining and the delightful are fit pabulum for the young mind? It is true that in the early grades of arithmetical instruction what we may call the mechanical aspect of the work is of more con- cover some line of thought upon which they will make further research if additional information is placed within their reach.

In providing books for school libraries, it should be borne in mind that every collection of books is not a suitable collection. Ancient reports of some agricultural society, public documents yellow with age, works by obscure authors on obscurer subjects, that have been donated by some one who did not care to give them room in his house, do not merit a place among reading matter for children. There are books that nobody reads; then why put them into school libraries? Reports are sometimes made by boards of education, that school libraries are of no value; they have been tried and found wanting. "Our district," says one report, "owns a library of one hundred and fifty volumes, and not more than one or two books have been taken out in the last year." Investigation usually shows the cause of this state of things. Doubtless among the one hundred and fifty volumes just mentioned, there is not one a child would care to read, or can read. The very appearance of the books may repel. They may be yellow and musty with age, or may be printed in such small type that the eyes of the reader would be forever injured did he master sufficient courage to read through a

whole volume. Some people repel by their looks; so do some books.

No book should be admitted into a school library simply on the ground that it is "harmless." Patent office reports are harmless; stupid compilations of statistics are harmless; treatises on the anatomy and physiology of holothurians are harmless; but wherein lies their utility in the education of a child? There is a large class of books called "harmless juvenile literature," that should be avoided. Superintendent William T. Harris has written of some of these books: "Nothing is more opposed to the imagination of the child than *childishness*, an effort after which has ruined so many would-be authors of books for children. They have attempted to come down with dignity from their own lofty standpoint, and have fallen into the bottomless pit of inanity, and the children have spurned their works as they deserved." Much of this "juvenile literature" is merest trash, is vapid, full of exaggeration, slang, and false sentiment. It is devoid of a single element of strength, and can neither elevate nor encourage.

Care should be taken, in making purchases for school libraries, to avoid books which are "all the rage." Many books are doomed to die young; they are worthy of no better fate. Enough of such books in cheap form creep into every community and lurk in many homes. Let it be the mission of the school to withhold such reading matter from the young so far as lies in its power.

No book should be bought for schools merely because it is cheap. Gaudy bindings should be avoided. Tasteful and durable covers, clear print and a good quality of paper should be sought for library books. It is false economy to buy without these objects in view. Many works are published in several editions. Different publishing houses are rivaling one another in an effort to issue standard works in forms whose only recommendation is cheapness. It is, therefore, necessary to examine books before purchasing, not being satisfied with the representations of agents or of advertising circulars. In the list of books for public school libraries, prepared by the state superintendent, great care has been taken to recommend only such editions as are the most satisfactory attainable.

Above all, let no books be bought for school libraries except those that are standards. Though the books may be few, let them be good. Better twenty of the world's masterpieces of literature, than twenty thousand volumes of trash. *

PHYSIOLOGY AS RELATED TO STIMULANTS AND NARCOTICS.

STUDY OF THE EAR.—OBJECTS OF THE LESSON:—To teach that: 1. The ear is an instrument which enables us to acquire knowledge through those wave motions called sound. 2. The ear consists of a sound-collecting apparatus, a sound-transmitting apparatus, a sound-receiving or distinguishing apparatus, and a balancing or equilibrium apparatus. 3. The sound-collecting apparatus consists of the pinna and auditory canal, which gather and concentrate the sound waves. 4. The sound-transmitting apparatus—drum—consists of an elastic, circular membrane upon which the sound waves are collected, attached to which is a chain of sound-transmitting bones. 5. The receiving apparatus is a fluid-filled, bony chamber, having a membrane-covered window against which the chain of bones beats, and in which is suspended a fluid-filled membranous sac containing the end organs of hearing. 6. The balancing apparatus consists of three fluid-filled, semicircular, bony canals, opening into the last fluid-filled bony chamber, and having in each a fluid-filled membranous canal also connected with the other fluid-filled sac.

We have already seen that a thread vibrating across the top of a desk emits a sound, the string beating the air and sending waves to the ear. We have noticed that by wetting the finger and slipping it over a window pane a sound is produced. In this case the finger catches and slips alternately, causing the glass to be first bent outward and then to fly back again each time the finger slips, thus sending out waves in the air to the ear. When the boy whistles the air catches and slips as it passes across his lips, thus setting up waves in the air which reach the ear. It is so with every sound we hear; they are all due to vibrations, and the ear, we shall see, is so built as to be readily set in motion by these vibrations.

All have noticed echoes, and know there must be some barn or wall in the distance when they are produced. Echoes are caused by a rebound of the sound waves, so that the waves we produce when we speak return to us again, as a ball does when it is thrown against the barn. Now the outer part of our ear makes use of this principle of reflection of sound. Place a watch on a table or window sill. Stand back to the watch and walk away until the ticking becomes indistinct.

Now face the watch and the sounds are heard more clearly. If you will now notice the ear you will see that it forms a deep concave pocket back of the entrance to the auditory canal, and is so placed that sound waves entering it will either be reflected into the canal directly, or against the raised projection in front and in this way into the canal. The auditory canal, which is about an inch in length, conducts the waves along it to the tympanic membrane or drumhead, which is set in vibration by them. The pinna and auditory canal then constitute the sound-collecting apparatus of the ear. The pinna has in man, and especially in many of the lower animals, another function. Allow a pupil to take a place in the room most distant from the clock. Let him place the hand behind the left ear, as a person does who is hard of hearing, and close the eyes. Turn him several times around, leaving him facing the clock, and request him to point in the direction in which he hears the ticking. He will find himself pointing to the left of the clock. Repeat the experiment with the right ear. He will now find himself pointing to the right of the clock. Perform the experiment once more but with both hands down. He is now able to locate the position of the clock correctly. It will be noticed that the two ears stand at the same angle with a line extending straight in front of us, and they are both of the same size; this being true, when we listen to a sound formed directly in front of us the same amount of wave motion is directed into each ear, causing the sound to have equal loudness in each. When the hand is put behind either ear the reflecting surface is made larger, thus requiring the head to be turned to the left or right in order to secure an equal loudness in each ear, as has become our habit when we wish to judge of the direction from which sounds come. In animals like the horse, dog and cat, where the ability to judge of the direction of sound is greater than with us, the reflecting portion of the ear is both larger and movable.

The sound-transmitting part of the ear is called the drum. It consists of a cavity excavated in the temporal bone, having in its walls three openings closed by membranes, and one leading by the eustachian tube to the pharynx. Shut the mouth, and, while holding the nostrils closed with the thumb and finger, try to force air out. A sense of pressure outward is felt in each ear. This is caused by air which has been forced into the drum, crowding against the drumhead or tympanic membrane which covers the opening between the drum chamber and the auditory

canal. Close the mouth and nostrils once more, but now try to draw air into the lungs. In this case the tympanic membrane seems pressed inward and it is, by the air outside, some of the air in the drum having entered the pharynx through the eustachian tube during the effort to breath. In this case, however, the sense of pressure is not relieved when the nostrils are allowed to open, as in the other experiment, but is the moment you swallow. Repeat the last experiment and observe that the ticking of the clock and other sounds in the room are heard indistinctly while the pressure is felt, but become clear again the moment it is relieved by swallowing. From these experiments we see that ordinarily the mouth of the eustachian tube is closed, but during the act of swallowing it is opened, and that the tympanic membrane is concerned with hearing. The other two membrane-covered openings in the drum lead to the sound receiving apparatus, or inner ear. The sound waves collected by the pinna in falling upon the tympanic membrane set it vibrating, and this motion, in order that we may hear, must be transmitted to the inner ear, and this is accomplished by a chain of three small bones —hammer, anvil and stirrup. The hammer is connected by its handle with the center of the tympanic membrane, while its short claw acts as the fulcrum of a lever, upon the end of which it is made to rock when the tympanic membrane vibrates. The stirrup rests with its foot flat against the membrane covering the oval window leading to the inner ear, while between it and the hammer the anvil is so secured that every time the hammer is drawn in the stirrup is made to draw the oval membrane outward, and to thrust it inward when the hammer is drawn outward. In this manner the sound waves are transmitted to the inner ear or receiving apparatus.

The receiving apparatus consists of two parts, an ante-chamber—vestibule—and a conical chamber winding like a snail-shell—cochlea—which communicate with each other and contain a watery fluid. In these two chambers are smaller membranous ones resembling them in form. The membranous vestibule and cochlea are filled with a fluid, which, by means of a connecting passage, is common to both, and it is in the walls of these two membranous chambers that the nerves of hearing end. The detailed mechanism of the inner ear is too complicated to be made clear without illustrations, but in this connection it may be said that the nerves of hearing end in cells standing on portions of the inner walls of the membranous vestibule and cochlea, and from the sum-

mits of these cells hair-like processes entend into the enclosed fluids. When sound-waves fall upon the tympanic membrane this causes the stirrup to beat against the oval window, thus setting up waves in the fluid of the bony vestibule and cochlea, which are in turn communicated through the membranous walls to the inner fluid, where the hair-bearing calls, to which the nerves are attached, are disturbed by them.

Connected with the ears is an apparatus which is now quite generally conceded to be concerned with keeping the balance of the body during its various movements. This apparatus consists of three bony, semicircular canals, lying in three planes nearly at right angles to one another and opening into the bony vestibule. The fluid filling the vestibule also extends into these canals, and in this fluid is a set of membranous semicircular canals, like the bony ones but smaller. The membranous canals open into a membranous sac—utriculus—situated in the vestibule, and this sac communicates with the one—sacculus—already referred to as communicating with the cochlea. In the walls of the membranous semicircular canals nerves end. To understand how these organs are supposed to assist in maintaining equilibrium, imagine a body like a pail, filled with water, to be situated in the body and its inner surface lined with cells in which nerves end. We are familiar with the fact that, if we turn a pail of water around quickly, the pail turns while the water remains nearly still. If however, we keep the pail whirling some time the water finally takes up the motion, and then will continue to whirl after the pail has been brought to rest. The same phenomena would occur in the imagined fluid in the body were the body turned suddenly around, and this would cause the nerves to be disturbed by the fluid slipping over them. Were we to continue whirling in the same direction for some time the fluid would come to take up the rotation of the body, and then would continue moving in the same direction for a time after the body ceased, so that in this case the nerves would again be disturbed by the fluid sliding over their endings, and things would seem to spin about us after we stopped turning, as we know they do when we have whirled about long enough to become dizzy. The semicircular canals lie in three planes, so that when we bend forward or backward we move in the plane of one of them, when we bend from side to side we move in the plane of another, and when we simply turn about, keeping the body upright, the parts of the body rotate in the plane of the other canal. By this arrangement of nervelined fluid

cavities it is believed that when we turn in any one of these planes the fluid in that canal tends to remain at rest, and hence the nerves, as they are carried around by the body, are disturbed by the fluid, thus indicating to us a movement in that direction.

How We Distinguish Tones and Voices.—Sounds have three properties, loudness or intensity, pitch, and quality or timbre. The loudness of sound is determined primarily by the intensity with which the body producing it vibrates, and hence we recognize degrees of loudness by the intensity of vibration in the ear.

Suspend two books of the same kind, or other objects weighing about 2 lbs., to opposite ends of a strong thread, and hang them across a desk, box or table. Place two lead-pencils under the string near opposite sides of the desk and cause the string to vibrate, noticing the pitch of the tone given by the string. Now roll one pencil toward the other and notice the change in pitch. This is due to the fact that changing the length of a string changes the number of vibrations it makes in a second, and hence the number of waves it sends to the ear in the same time. When we used the long string in our experiments with muscles we saw that the wave was a sensible interval of time in going to the wall to be reflected back. Had we shortened the string one half, other things remaining the same, it is evident that the waves would have made their excursions in just half the time, and hence double the number of vibrations would have been made in the same time. It is for this reason that shortening the string raised the pitch in our last experiment. One other fact is necessary before we can understand how the pitches of tones are distinguished. If a piano top is raised and one of the tones it can produce is given near it, that string, and that only, which can give the tone of the same pitch will be set in vibration. It is this principle that underlies our power to distinguish pitch. Evidently were each string of the piano connected with the brain by means of separate nerve fibers we should have no difficulty in distinguishing which one of the many had been set in vibration, and hence no difficulty in distinguishing the pitch of any tone sounded near the piano which the piano itself could produce. There is on one side of the membranous cochlea a membrane—basilar membrane—which answers to the sounding board of the piano with its strings. This membrane tapers in width from one end to the other, and, being tightly stretched crosswise and loosely lengthwise, its different sections are able to vibrate like separate strings. When tones

of one pitch are heard only a certain region of this membrane vibrates, and hence only nerves connected with that portion are disturbed. We distinguish two pitches, then, just as we distinguish two touches, one on the little finger and the other on the thumb.

We distinguish the qualities of tones by a variation of the manner in which we distinguish pitch. Repeat the experiments with the weighted string, hanging it across various flat topped objects. You will find that while you are able to get the same pitch of tones the quality differs with each object across which the thread is hung. This is due to the fact that very rarely indeed does any vibrating body give a *single* tone, there are almost always tones of higher pitch—overtones—associated with the one—fundamental—which determines the pitch, and it is the associated overtones which give to the pitch-determining or fundamental tone its peculiar quality. It is also extremely rare that two instruments can be found which give with their pitch-determining tones the same set of associated higher tones, and hence one musical instrument differs from another even of its own class. Understanding how the ear distinguishes pitch, it must be evident that we distinguish quality through the fact that the basilar membrane is vibrating in several places at the same time, and only two of these are exactly the same when two tones having the same pitch are produced by different instruments or different voices. It has been shown that our different vowel sounds, when uttered in the same pitch, differ from one another only in quality, and if we notice how we produce each of these we shall see that we alter the shape of the mouth for each sound, and hence convert it into a new musical instrument. It is this which makes learning to talk so difficult a task.

THE EAR OF A CHICKEN.—Some parts of the ear can be readily seen by an examination of that of a domestic fowl. Having secured a chicken's head, notice first the tuft of long, stiff, bristly feathers so inclined backward as to cover the opening to the auditory canal. These can be raised so as to answer, in my opinion, to the pinna in our case, but are so situated as to collect sound waves coming from the rear best. By removing the skin from the head, and clipping off the outer end of the auditiory canal with a pair of scissors, the tympanic membrane may be clearly seen, and through it the bone answering to the stirrup and anvil combined—the bones are not like ours—may be seen attached near its center. The tympanic membrane will be seen to bulge slightly outward, but in our case it is more like a shallow funnel concave out-

ward. If the skull is allowed to dry, making the tympanic membrane brittle, it may be readily broken loose from its margin and from the stirrup, which may then be seen extending into the rear hole, of three rather large ones, which is the oval window, the front and largest one being the eustachian tube. With the aid of a pair of small forceps the stirrup may be pulled out, when it will be found to resemble a slender-stemmed, flat-topped toad-stool in form, having a stem about ⅛ of an inch long and a foot about 1-16 of an inch in diameter, and can thus be readily seen by the unaided eye. The skull of a large owl shows very nicely indeed the semicircular canals.

In closing these perhaps much too extended articles, the writer desires to state that the aim has been to exhibit what, in his judgment, has been found to be a good method of presenting the subject of physiology to pupils from 12 to 15 years of age. The fundamental aim all through has been to handle the topics selected in such a manner as would necessarily stimulate observation and reflection, and thus secure a degree of assimilation that the mere memorizing of set language can never give, and, at the same time, to demonstrate, if possible, that the information-end of this subject is most readily attained by a method which is, in itself, distinctively disciplinary. The reflective powers in the child are certainly naturally very active years before the age of 12, while the imagination, along certain lines, is both vivid and strong and no one questions the existence of an aptitude for observing and experimenting. The style in which very many, if not the majority, of our text-books are written, and the prevailing methods of instruction, have a very strong tendency not only to neglect these longings but positively to smother them, and yet in after life power in these directions is absolutely essential to the gaining of a livelihood. The great trouble with elementary instruction is that it tends to fix habits opposed to observation and reflection, and these habits later in our courses of instruction become insuperable obstacles to the best development. The method of treating topics here presented should not be interpreted to mean that the instruction must necessarily be oral. Were I to use any of our text-books with such pupils the method of handling the topics would still remain essentially the same

F. H. King.

RIVER FALLS, WIS.

THEORY AND PRACTICE.

SLOJD.

The word Slojd is Scandinavian. Its original meaning is "cunning," "clever," "handy" (compare "*sleight* of hand"), but, as at present used, it means rather the different kinds of hand-work used in schools for educational purposes. Slojd is such a convenient word, and embraces so much, that I think we shall have to naturalize it, and call it *Sloyd*. It has already been adopted in France and Germany, and I believe in Belgium, Austria, and Russia.

There are many different kinds of Slojd, or hand-work, practised in the schools in Sweden, Norway, Denmark, Finland, Germany, and other countries: simple metal-work, smith-work, basket-making, painting (trade), fret-work, book-binding, papier-mache, needle-work, and finally wood-slojd, which consists mainly of carpentry, but in which carving and turning may play a subordinate part.

It appears, from a careful comparison of the results obtained by means of these various occupations, that, while several of them answer in certain particulars, yet only the *wood slojd* can answer all the ends.

I will endeavor to give a brief outline of the chief principles of the method for the teaching of manual work which is followed at Naas, and which has thence been largely disseminated all over Scandinavia and Finland, and is taught even within the Arctic Circle. In Sweden alone, wood slood is practised in 800 national schools, has been introduced into the secondary schools for boys, and is now being adopted even in the upper schools for girls. It has also been introduced into France, Belgium, Germany, Austria, and Russia. It will probably be taken up in Abyssinia, through the instrumentality of the Swedish missionaries; and even far-distant Japan is showing an interest in the subject.

Herr Salomon, Director of the Seminary at Naas, has treated of the results aimed at by Slojd, the choice and classification of models, and the question who is to be the slojd teacher, in a work which has already been translated into French and German, and will soon, I hope, appear in English.

Slojd aims at the following *Results:* (1) To implant respect and love for work in general; (2) To implant respect and love even for the coarser froms of honest manual work; (3) to develop activity; (4) to foster or-

der, accuracy, cleanliness and neatness; (5) to encourage attention, industry, and perseverance; (6) to develop the physical powers; (7) to train the eye and the sense of form.

The joining of the Slojd should be *voluntary* on the part of the pupil; consequently, the work should fulfil the following conditions: (1) It should be useful; (2) the preparatory exercises should not be too fatiguing; (3) they should offer variety; (4) they should be executed without help; (5) they should be *real* work, not play; (6) they should not be knicknacks, or so called fancy work; (7) they should belong to the worker; (8) they should be in harmony with his power and physical strength; (9) they should be of such a nature that they can be finished with exactness; (10) they should allow of cleanliness and neatness; (11) they should demand thoughtfulness, and thus be more than a purely mechanical work; (12) they should strengthen and develop the physique; (13) they should help to exercise the sense of form: (14) lastly, as many tools and manipulations as possible should be employed.

Such are the results aimed at; but here a very important question arises,—who is to be the Slojd teacher.

Teachers are already so overburdened with work, that it seems too much to expect them to undertake another subject. But for them, too, a subject so novel, and necessarily so differently taught from the ordinary school subjects, would doubtless have its attractions, and would illustrate the saying, "Change of work's as good as play."

Whether this be so or not, the Slojd instruction must be undertaken, NOT by an artisan, who would naturally regard it merely from its mechanical side, whereas the main object of Slojd is not the teaching of any trade, but the development of the faculties, and the acquiring of general dexterity. It must, therefore, be given by a *trained teacher*, who understands the nature of the material on which he has to work, viz., *child-nature*, and, if possible, by the same teacher who takes the other school subjects. In order to be able to follow with advantage the course of instruction, the pupil ought to have reached a point of development usually attained about the age of eleven.

One word as to the main differences between wood slojd and ordinary carpentering, with which it is very apt to be confused. These lie—(1) in the character of the objects made, which are usually smaller than those made in the trade; (2) in the tools used—the knife, for instance, the most important of all in Slojd, is little used in ordinary carpentry;

(3) in the manner of working—the division of labor employed in the trade is not allowed in Slojd, where each article is begun, carried on, and finished by the same pupil; (4) but the fundamental difference is in the *object* of Slojd, which is, not to turn out full-blown, or half-blown even quarter-blown young carpenters, but to develop the faculties, and specially to give *general* dexterity, which will be useful whatever line of life the pupil may afterwards follow.

As individual instruction is generally required, and as this manual work cannot be taught in class, the same teacher can only superintend a limited number of pupils at the same time. Generally speaking, there should not be more than twelve.

As to the *Choice of Models:*—(1) All articles of luxury are to be excluded; (2) the objects made are to be of use at home; (3) the children should be able to finish them entirely without help; (4) the articles should be made of wood only; (5) no polish should be used; (6) as little material as possible should be employed; (7) the children should learn to work both in the harder and softer woods; (8) turning and carving should only be sparingly employed; (9) the models should develop the children's sense of form and beauty, and for these ends, the series should include a certain number of *modelled* objects, for instance, spoons, ladles, and other curved articles, which are to be executed with a free hand, and chiefly by eye; (10) by means of going through the whole series, the pupils should learn the use of all the more important tools. In the choice of models, care should be taken that each one prepare for the next.

Let us now see whether Slojd, if the foregoing conditions be carried out, may be regarded as a factor in Education, whether considered physically, mentally, or morally.

It is essentially a form of work which calls forth every variety of movement, which brings all the muscles into play, and which exercises both sides of the body. It is so arranged that the children can work with the left hand as well as with the right, in sawing, planing, etc. Thus all the muscles are strengthened, a more harmonious development attained, and there is less fear of their growing crooked. There is no reason to dread their becoming lefthanded; in more delicate manipulations, the right hand will always remain the better man of the two.

Does Slojd help forward the mental development? Surely work which draws out and exercises energy, perseverance, order, accuracy,

and the habit of attention cannot be said to fail in influencing the mental faculties; and that it should do so by cultivating the *practical* side of the intelligence, leading the pupils to rely on themselves, to exercise foresight, to be constantly putting two and two together, is specially needed in these days of excessive examinations, when so many of us are suffering from the adoption of ready-made opinions, and the swallowing whole, in greater or smaller boluses, the results of other men's labors.

We want *whole* men and women, the sum-total of whose faculties is developed, who have learnt to *apply* their knowledge, not only in the emergencies, but in the daily occurrences of life; and this readiness—this steadiness of nerve, the ordered control of that wonderful machine, the body, the cultivation of the practical side of us—can only come by exercise, and this is given by means of Slojd. Let us also remember that all skilled work, however humble it may appear, is *brain* work too; the hand is the servant of the brain. If anyone doubt this, let him try to make, from first to last, some complete, object, however insignificant—be it the modelling of a leaf, cube, or even a ball, or the making of a wooden spoon—and, I answer for it, he will gain a new respect for hand-work, not only from its usefulness, but the skill it requires.

What does Slojd do for the *moral* training of the child? It implants respect and love for work in general, including the coarser kinds of bodily work. In the fierce competition which exists in all civilized countries—and nowhere fiercer than in our own—which springs in so many cases from the desire to push on to some fancied higher level of life, what a clearing of the moral atmosphere would be effected if the rising generation could be imbued with the feeling, deepening as they grow up into conviction, that it is the *man* who dignifies or degrades the work—that all labor which proceeds from a worthy motive is of equal worth, and that the right work for each one of us, and consequently the noblest, is the work we can do best.

But this is not all which Slojd effects in the way of moral influence. It tightens and strengthens the bond between school and home. Everything which the child makes is for *home* use, is prized there as his own honest work, and as the product of the skill which he is gaining at school. Among the *working* classes, the *actual* use of the things made by the children (beside the wholesome pleasure and pride they call forth) is found to do much, in the countries where Slojd is practised, to

reconcile the parents to their children remaining at school even when they are beginning to be of use at home and to be able to earn something. They have tangible proof, in the objects brought home, that their children are learning something which makes them useful and handy, and which will make them readier in future in learning a trade.

I will only mention one other point in which Slojd bears good moral fruit. I mean, it implants in the child a sense of satisfaction in honest work, begun, carried on, and completed by fair means and by his own exertions. In these days of scamped work, of dishonest tricks to be found in all trades and manufactures, what can we say too much in praise of a system which will give our boys and girls a sense of the dignity of work—a scorn and contempt for what is slovenly or tricky? The Slojd system is completely opposed to the modern principle of division of labor, which is no doubt a necessity in the present condition of life, but which would be disastrous in education, where the aim must be the development of each individual, NOT the getting through a given quantity of work in the shortest and cheapest way.

I can only speak in the briefest way of the crying need there is for some such practical training as is given by Slojd. I am not an enthusiast for the particular form of it which I have studied myself at Naas, and which I have seen at work in the Swedish schools, where I wish I could transport you, so that you might see for yourselves the earnestness and energy of the young workers, the dexterity with which they handle their tools, their extreme carefulness (for no damaged or careless work is passed), and the independent manner in which they work. But I do say, that we want something of the kind, suited to our national needs and character, and bearing the same fruit of trained intelligence and skill which it is producing in the countries where it is practiced. A great deal is being done here for Technical Education, and a great deal is said as to its need, for there is a very real danger of our workmen being driven out of the field on account of the superior skill of foreigners and the great advantages they enjoy in the way of the technical education. We can but rejoice that we are beginning to recognize danger, and that so much attention is being directed to the need of technical education; but, even supposing the country were covered with technical schools, if our young people come to them with eyes and hands untrained, with little or no sense of form and beauty, with lack of perception and habits of observation, with untrained and undeveloped

muscles, how can they possibly hold their own against the youth of other countries, coming fresh from schools where eye and hand have been trained to *general dexterity* which will stand them in good stead whatever special branch of technical work they may take up, with trained observation and perception, and with a love for work and an interest in it which has been quickened and stimulated by many a victory gained by perseverence, attention and energy?—*Evelyn Chapman, in Popular Educator.*

SLOJD IN COPENHAGEN SCHOOLS.

Hon. J. A. Johnson, of Madison, recently read a paper on industrial training, before the Contemporary Club, in which he gave some account of the Slojd training which he saw in the schools of Copenhagen. From this paper we extract two or three paragraphs:

My enthusiasm was so aroused that I determined to have my daughter attend the school for a month, so as to gain a little insight into the system. It was a little awkward for her at first to use the saw, the plane, the chisel, the knife, the hammer and the bit, and it may well be imagined that she did not handle the tools very skillfully, nor fit the joints of her work very closely, and the blisters on her hands did not at first quite suit her. But she, as well as her friend, Miss Myers, soon learned to like it, and I am sure that there will be few months in her life that she will look back to with more pleasure, or in which she gained more real, substantial, valuable experience than this slojd month in Copenhagen.

The apparatus in the slojd school-room consists of a series of small carpenters' work-benches, with vises and a small complement of tools for each bench, made up of saw, plane, chisel, gouge, compass, small square, hammer, bit, knife, wood file, and perhaps a few other little tools, owned or rented by the pupils. The school is provided with a a goodly pile of odds and ends of lumber to practice on. In a separate room there is a good assortment of wooden models, which the pupils are to duplicate as nearly as possible, and one at a time is hung up before the class. For the beginners the models are very simple, being merely a small, straight board, planed on all sides, and so that the toy square will show right angles.

The pupil has to struggle a little to run the saw to a straight line. If a piece is spoiled, another is substituted. The teacher goes from pupil to pupil and gives his instructions, and often speaks to the whole class. The next model is a little more difficult. After a time little book shelves, flower stands, boxes, etc., are made. The pupil thus gets an idea of form as well as work, and becomes interested. Those who have the taste learn to carve a little, and soon find artistic work growing in their hands, of which they had never before had any comprehension. Thus the pupil becomes deeply interested, and looks forward with pleasant anticipations to his slojd lessons.

There must, of course, be a separate room for the slojd class. The time devoted to it varies from three to five hours a week, and a course of three years, from the age of about ten to thirteen, is unusually recommended.

While the manual training imparted in these classes certainly is of very great value, yet it is not the most important advantage. The mind even more than the hand is disciplined. The sense of form is developed, and habits of accuracy in thought and action are most effectively cultivated. Mechanical and artistic tastes quickly manifest themselves, which often give valuable hints to teachers and parents. The child that is listless and dull in other studies may be exceedingly quick and apt in slojd, and may through its means become a most useful and valuable citizen.

OFFICIAL DEPARTMENT.

TEACHERS' EXAMINATION FOR STATE CERTIFICATES, 1888.

I.

BOARD OF EXAMINERS.

The Board will consist of Prof. J. W. Stearns, Madison; Prof. J. Q. Emery, Ft. Atkinson; and Prof. T. B. Pray, Whitewater.

II.

TIME AND PLACE OF EXAMINATION.

The Board will meet at Madison, July 30, 1888, at 3 o'clock, P. M., and will continue in session four days.

The examination will be held in the office of the State Superintendent.

On Saturday August 4, the Board will determine the standing of applicants and make report to the State Superintendent.

III.

CHARACTER OF THE EXAMINATION.

For the limited (five years') State certificate, axamination will be had in the branches required for a first grade county certificate, with the addition of English Literature (historical) and Mental Philosophy.

For the unlimited (life) State certificate, examination will be had in the branches required for limited State certificates, with the addition of Botany, Zoology, Geology, Political Economy, General History, English Literature (critical) and Theory of Teaching.

Seventy per cent. is the minimum average standard for a *limited* certificate; and seventy-five for an *unlimited.*

Seventy per cent. is the minimum standard for each of the first grade branches, and sixty-five per cent. the minimum in English Literature, Mental Philosophy, Botany, Geology, Zoology, Political Economy and General History.

The *limited* State certificate will require three terms of four months each of successful teaching. The unlimited, seven terms of four months each.

Satisfactory testimonials of moral character will be required.

Applicants for *limited certificates* will be allowed trials at three consecutive sessions of the Board of Examiners in which to complete the examination. Applicants holding the limited certificate, or its equivalent, will be allowed trials at any two consecutive sessions of the Board of Examiners during the validity of the certificate held, in which to complete the examination for a *life certificate.*

During the limits herein fixed re-examination will not be required upon branches in which a satisfactory standing has been attained.

IV.

SUGGESTIONS TO APPLICANTS.

Examination in branches additional to those required for a limited certificate will be taken up on the third day—Wednesday, August 1.

The evening examinations will be confined to the following branches: Art of Teaching, Geography, English Literature.

In examination upon any branch drawing may, and in Physiology, Physics, Botany and Zoology, will be required to the extent of correctly and creditably representing any objects described.

As a guide to such as may desire to review either of the following branches before examination, or are making original preparation in these studies, the following suggestions are made: Political Economy—Newcomb's or F. A. Walker's; Mental Science—Sully's Teachers' Handbook of Psychology; General History—Myers' Ancient and Myers' Mediæval and Modern History, or Fisher's Universal History; English Literature—Brooke's Primer of English Literature and Backus' Shaw's English Literature for the historical study; for the critical, Swinton's Studies in English Literature (Harper's). Candidates for the life certificate will be expected also to be thoroughly and critically familiar with Shakespears's Julius Cæsar and with Emerson's Representative Men. Physics—Gage or Avery; Zoology—Packard, (Briefer course), or an equivalent; Art of Teaching—Fitch's Lectures; Theory of Teaching—Sully's Teachers' Handbook of Psychology.

Stationery needed will be furnished by the Board.

The attention of all persons purposing to become principals of free high schools in Wisconsin, and who are required by law to pass special examinations to qualify them for teaching in such high schools, is especially called to the time and place of holding this examination.

Sec. 494, R. S., Ch. 325, Laws 1883, Sec. 1.

J. B. THAYER,
State Supt.

Madison, Wis., March 14, 1888.

EDITORIAL.

CERTAINLY the policy of State Superintendent Draper, of New York, is significant of the possibility of a true educational development in this country independent of politics. A demand has for some time existed in that State for uniform teachers' examinations. Superintendent Draper by great exertions carried a measure establishing such in New York through the Legislature, and then it was vetoed by the Governor. He did not therefore abandon the movement, but not having power to enforce such a measure he appealed to the County Commissioners (superintendents) to accept the system voluntarily,

offering a plan which they were at entire liberty to adopt or reject. Of one hundred and thirteen commissioners eighty, or almost four-fifths, signified at once their voluntary acceptance of the plan, and it is believed that most of the others will soon fall in line. Here is a great reform carried by educators themselves in spite of the obstructions of politicians. Why may not the example be followed elsewhere? Legislation is not the only means of securing a reform as to the need of which there is a general agreement among educators.

READERS who are interested in educational progress will not fail to study carefully the interesting matter pertaining to industrial education found in this number of the JOURNAL. A plan of instruction for children ten years of age and upwards has been developed in the North of Europe with such success that it is already established in about one thousand schools in Sweden, and a great many also in Norway, Denmark and Germany. The ideas which have led to its establishment are well set forth in the article on the Slojd, and they are essentially the same as those underlying the movement going on in this country. This as yet is very crude and immature. What may be called the upper end of it—the manual training school as advocated by Prof. Woodward and already established in Chicago and St. Louis by private enterprise—has at least attained definite purposes and clear plans. But this is at present outside of the public school system, and parallel with the high school. In elementary schools here some experiments have been made, of which the best known are those of Superintendent Love, in the Jamestown, N. Y., schools, and the move just inaugurated in the New York city schools. Neither of these plans seem to have the completeness and adaptability of the Slojd, nor have they yet been thoroughly tried. We must await developments in the matter, the significance of which it is hard to determine at present, but await them with intelligent interest, and the assurance that they will certainly result in bringing the work of our schools into closer and more vital relation to the needs and life of our people.

A CONSTANT sense of the beyond in teaching is the best possible regulator of school-room practice. Nothing so narrows and mechanicalizes teaching as shutting it up in the school-room, limiting it to school tests and measuring it solely by school standards. Life is the proper test of it, and when this is recognized all its processes are broadened and vitalized. This piece of work is done, we say, that it may bear such and such fruit in life. The boy is to be taught to think about things he has to deal with, and this lesson in physics has been so managed that he did see for himself and think for himself. He is growing observant and thoughtful, and will not be likely to depart from the practice when he leaves school; therefore the classwork is profitable to him. Or, again, these pupils are acquiring a genuine taste for good literature. They enjoy it, recognize its beauties, enter into its ideals, are eager to increase their acquaintance with it. That determines one element of their lives; a wholesome elevating pleasure has been added to their existence, and they are not likely to

abandon it; therefore the teaching is good. Once more, these scholars are becoming careful and critical in their work. They guard intelligently against errors in spelling, their use of capital letters and punctuation is discriminating, they form their sentences correctly and put together what they wish to say in an orderly, intelligent fashion, having withal some sense of vigor and elegance in their diction. It is well. They probably will not depart from such ways. These are good tests of school work. Whatever cannot bear the intelligent application of such tests may be cast aside as rubbish of the schools.

PHYSIOLOGY has been added to the attainments of our common school teachers with surprising ease and rapidity. It is but two years since the law requiring examinations in this subject for all grades of certificates went into effect, and already the new study ranks with the old ones in the success with which it is pursued. Nearly the whole teaching force of the state has been engaged in the study of physiology during the two years past with excellent results. The end desired by the promoters of the movement will be secured. Young people will go out from school with some apprehension of the evil effects of stimulants and narcotics on the human system, and this knowledge will promote self-restraint and a more wholesome opinion on these subjects. But the effects of the study are much wider. The schools are now sending out into the homes ideas of hygiene which are of the greatest value, and which will improve the mode of living of the people in many important particulars. Moreover, the teaching reacts on the schools. More attention is necessarily given to the health of pupils; more intelligent effort to improve the material conditions of the schools will be made, and more care exercised to prevent the formation of bad habits. We do not intend to exaggerate the advantages resulting from the legislation, but few intelligent persons will question the truth of what we have stated. Now the ease with which these important results have been secured ought to show us that the means of further improvement are in our hands. We ought to have more intelligent and progressive teachers especially in our rural schools; why do we not have them? Because we do not make use of the means to secure them. "The way to resume is to resume," we learned a few years ago in our national affairs; so the way to have better teachers is to take no others. We trust that the time is not far distant when third grade certificates will be reduced in value by suitable legislation. It seems to us that a measure might safely be passed at the next session making it impossible for any person to receive a third grade certificate more than twice. That would afford a means of eliminating from the teaching force the unprogressive element, and make the real character of a third grade certificate — as a merely temporary license — abundantly apparent. The interests of the schools, and therefore those of the communities where they exist, and the interests of good teachers demand that this should be done. Since physiology is required of all teachers only two additional branches are requisite by the law in order to secure a second grade certificate — physical geography and elementary algebra. The opportunities for acquiring these studies are now abundant in the state. They

can be added to the acquirements of our teachers as physiology was added. Besides these branches there is required for a second grade certificate additional thoroughness in other subjects, as indicated by higher ranking at the examinations. Who doubts that this ought to be exacted in justice to the children now in the schools? From this thoroughness result better mental habits, and greater clearness and accuracy in the school work. By not demanding this we waste the money of the districts, the time of the pupils, and the possibilies of the future.

CITY schools at least may readily secure the efficient teaching of natural sciences to elementary pupils by adopting what is coming to be known as the Nottingham plan, because it was first tried at Nottingham, England. This is, in fact, nothing more than the extension to natural science of the practice which has long been common with reference to music and drawing—the employment, namely, of special teachers who devote their whole time to this branch, passing from school to school. These subjects are late introductions to the school courses, and we probably owe the peculiar arrangements for teaching them to this fact. The grade teachers are not supposed to know them well enough to undertake their management. This results in their advantage, inasmuch as a specialist is usually better qualified to teach in his department than one who must try to teach everything. The last report of the Council of Education for England and Wales reveals the excellent result of the Nottingham plan. In general the report shows that the teaching of science in the elementary schools is about as bad as it can be, when not utterly neglected being done in a perfunctory and profitless way; but of Nottingham the report says: "Mechanics for boys and domestic economy for girls, are the subjects principally taken by the Nottingham Board Schools, and are taught by a specially qualified science demonstrator and assistant, who visit the various schools in turn, and bring the apparatus with them in a specially constructed hand-cart. The lectures given on this occasion are afterwards gone through again by the teachers of the schools, and are given with great care and skill. The results are remarkably good, both as regards the actual knowledge acquired by the scholars, and the stimulus given to the general intelligence." The results in figures are, 2,526 children were examined in the subjects and four fifths of them passed. The expense for teaching and apparatus after this plan is not large, and the practical value of the subjects makes it eminently desirable that some effort should be made to reach grammer grade children with them. Some notions of chemistry and the elements of physics can certainly be successfully taught to boys of twelve, who usually show much more interest in these things than in grammar, and much more aptitude for them. Why is it not done? If the principal or science teacher of the high school would meet classes in the grammar grades, much might be accomplished. The reason that nothing is done is not that the subject is lacking in importance, or that means for carrying out the new teaching cannot be devised, but that the matter

would be an innovation. Plans must be changed, the system varied, the long established tradition must give way to the demands of modern life. These considerations may hinder the proposed change but they cannot altogether prevent it. At length they must be overborne by the reasonableness cf the reform.

OUR DRAWER.

READING CIRCLE MATTERS.

WORK FOR THE SEVENTH MONTH.

ELEMENTARY. PAGE.—Read pages 319 to 361. HISTORY—pages 203 to 254. PHYSIOLOGY—Chapters 17, 18 and 19.

ADVANCED I.—Quick—Essay on Herbert Spencer. FITCH—Chapters IX, X, XI. POLITICS—Chapters XXXVI to XLII. HISTORY—Pages 540 to 571.

ADVANCED II.—SULLY—XIII, XIV and XV. BROOKE—to page 153. SWINTON—366 to 454.

A READER'S NOTES.

CITIZENS.—A writer in the *Atlantic Monthly* calls attention to the fact that the words "citizen" and "citizenship" in the sense in which we now use them, to denote membership in a state or nation have not had that meaning for more than about two hundred years. They were used but in the sense of dweller in a city or borough. The word "subject" was the English representative of our term citizen. The sense now attached to it originated in America, being perhaps borrowed from the French *citogen*, used in the same way. "In the treaty with France of 1778, the usual phrase is "subjects," "people," or "inhabitants," but "citizens" does occur as applicable to the United States. In the treaty with Great Britain of 1782 it is used in a marked way: "There shall be a peace between his British majesty and the said states, and between the subjects of one and the citizens of another." There was evidently felt to be an awkwardness in calling these newly emancipated "sovereigns" of America by the old phrase "subjects." Of course, as all know, the word was freely used in the national constitution in 1789; and so, but less freely, in the Massachusetts constitution of 1780; but it does not occur in the rejected constitution of 1778. I believe that it is not to be found in any of the state constitutions that were adopted before that of Massachusetts. In the ninth decade it seems to have become a familiar phrase. There are, however, interesting little signs in the correspondence of the period, of a certain perplexity that was felt by foreigners at our use of the word." This is a striking proof of the enlargement of views among English speaking people which was going on at the close of the eighteenth century.

THE INFLUENCE OF MODERATE DRINKING ON HEALTH. Dr. Hartley, a

distinguished specialist in diseases of the liver and kidneys contributes an interest-ing article on moderate drinking, whichhe calls "nipping," to the *Provincial Medical Journal.* He shows from the mortality tables that the rate of mortality is six times greater among those whose business is practically inseparable from "nipping" than among those representing all the other industries combined. He says the result of studying these matters is "startling in the extreme, more particularly as regards the proportion of liver diseases." After the liver the kidneys, the heart and the nervous system suffer most from "nipping." "Is it not difficult," he says, "to understand why the liver, of all organs in the body, should be most affected by 'nipping,' when it is remembered that almost every drop of alcohol taken into the stomach is absorbed by the branches of the portal veins, is conveyed directly to the liver, and has to filter through its tissues before it can get into the general circulation, and by it become distributed to the other organs of the body." He also showed, so long ago as 1853, that the mere injection of alcohol into the portal vein in dogs is sufficient to disorder the functions of the liver to such an extent as to cause the animals to become diabetic in the short space of from two to three hours. He finds that "the only tangible reasons that we as yet possess for alcohol disordering the renal functions exist (1) in the fact of its elimination causing extra work, and (2) that alcohol increases the renal circulation, just as it increases the circulation elsewhere, and no doubt at the same time causes a corresponding increase in the diameter of the renal blood-vessels by engorgement, and consequent pressure on the inter-vascular tissues." The bad effect on the heart consists in inviting disease in the predisposed, and augmenting disease where it already exists. On the nervous system it acts deleteriously by keeping the blood-vessels on the stretch, by engorging them, and causing them to press upon the nerve cells and fibrils, thus interfering with their functions and nutrition. He found that even in the small proportion of five per cent. alcohol "exerts a powerful chemical effect upon the blood, so powerful as to entirely derange one of its most important functions,—namely, that of respiration. The alcohol seems to act like an asphyxiant, inasmuch as it not alone diminishes the power of the red corpuseles to absorb oxygen but to exhale carbonic acid, and that, too, in the same way (though to a somewhat less entent) as morphia does. This peculiar chemical action of the alcohol on the blood nerve pabulum may be thought to give a reasonable explanation of the paralyzing action of alcohol upon the nervous system, seeing oxidation is the motor power of all vital action, and in direct proportion to its activity are the manifestations of life accelerated or retarded. Every breath we draw, every movement we perform, every thought we think is but the outcome of the transformation of matter under the influence of oxygen. If, then, it be true, as above shown, that alcohol possesses the power of preventing the constituents of the blood from being properly oxidized, it is easy to account for its producing a chain of neurotic symptoms terminating in coma and death."

MILWAUKEE LETTER.

Some weeks ago a meeting of the District principals was held under the direction of Supt. Anderson at the state Normal School, for the purpose of examining the merits of the Delsarte system of physical culture, as exemplified in the results so far attained in the classes taught by Miss Morley, the teacher of calisthenics in that institution. After witnessing several drill exercises with Model and Normal School classes, and listening to a brief exposition of the system, the principals held a meeting in which the subject of gymnastic and calisthenic exercises in general, and various systems in particular, were freely discussed. With one exception, all who expressed an opinion were well pleased with the exhibition of results presented; but the "sense of the meeting" was not on the whole favorable to the introduction of the Delsarte plan into the schools, particularly where the rooms are crowded and the aisles narrow. The opinion was almost unanimous, however, that the physical training required by the Board of Education can be directed in a satisfactory manner by the regular teachers, and that the legitimate purpose of such training will be promoted more effectively if so directed than if placed under the management of a special director.

Supt. Anderson's latest report, like President Cleveland's recent message, takes up but one subject. It emphasizes, by an array of more than usually interesting statistics, the fact that teachers come and go and most of them do not come to stay. In the past decade about 500 recruits have been added to the corps, and in recent years a larger number than the average for that time. Reasons are clearly set forth why, in the very nature of things, many of these are exceedingly raw recruits; causes are pointed out which are continually operative, and which tend to keep up this condition of affairs. The superintendent, while calling attention to some of the evils that arise from a rapidly changing corps of teachers, whose ranks are filled in many cases by untrained and inexperienced girls, yet philosophically "accepts the situation," and addresses himself to the practical problem of how to avoid the inconvenience and actual loss that result when vacancies unexpectedly occur and no licensed teachers are at hand to fill them. The remedy suggested, though not definitely formulated in detail, is that, estimating according to the law of probability, the number of vacancies likely to occur during the year, the Board should, during the months of summer vacation, before teachers generally have made engagements for the year, employ a sufficient number as a sort of reserve corps, and use them as temporary substitutes until permanent places become vacant. Whether teachers having the grade of qualifications which the schools of Milwaukee ought to demand could be engaged at substitutes' salaries, is a question which the report does not discuss. Your correspondent would suggest that "teachers' agencies" are now a recognized and legitimate instrumentality in the conduct of school matters, and many of them are managed on straightforward business principles, by men who are worthy of the confidence of school officers and teachers. Moreover, it

might be worth while for the Board so to modify its present regulations as to recognize state certificates and diplomas of state Normal Schools of sister states. While this would probably relieve the difficulty complained of in a very slight degree if at all, its effect would tend in that direction, and it would be a step toward the recognition of professional teachers as a class. If states are slow to accord "full faith and credit" to one another in this respect, there is no good reason why a city suffering from a lack of teachers should refuse that courtesy which is freely extended to members of other professions. Great and mighty is the fetich, Examination!

The dearth of teachers might be relieved by a simple remedy—the payment of better salaries, and the proper recognition of the difference between experience and adequate preparation on the one hand, and the total lack of such qualifications on the other. As it now is, the young girl not past the "middle of the teens," fresh from the eighth grade or the first year of the high school, who by repeated effort and importunate persistence gets the required certificate, is at once employed at $40. a month, while the one who completes the high school course and superadds a full professional course in a normal school gets no more.

The County Teachers' Association met week before last in its second annual session. The number of absentees among those who were advertised to take part was a prominent feature of the program. Supt. Lynch came bravely to the rescue, and made up for a part of the lacking work by reading some extracts from a valuable paper on the teaching of number. All who heard Prin. Lewis Funk's paper on the "Known and Unknown" appreciated it highly, and will be pleased to hear him again.

Rumor has it that another association among pedagogs is soon to be formed; but it will probably not be a pedagogical association. The principals of primary schools have heretofore been debarred from membership in the district principals' association; they will probably organize a similar association, the object, as in the case of the older organization, being rather to consider matters pertaining to "school politics" than questions of educational philosophy. The recent effort to secure an increase of salary by primary school principals has not yet proved successful; the movement is now coupled with a proposition to increase the salaries of seventh and eighth grade teachers, and to reduce those of district principals and certain special teachers.

Mention of the startling disclosure of the enormities of cruel over-pressure alleged to be practiced in a certain training school for teachers, as reported by Supt. Anderson in a paper recently contributed to the report of the State Board of Health, must be omitted until next month. I. C.

THE MANUAL TRAINING SCHOOLS.

Editor Wisconsin Journal of Education:

DEAR SIR—One of your subscribers calls my attention to a remark in your

March number, page 127, in which you state that the Chicago and St. Louis Manual Training Schools "are essentially trade schools," "aiming to fit boys for important positions in manufacturing establishments." This friend, knowing the character of these schools from personal acquaintance, suggests that I "drop you a line" to convince you of your error.

The editorial paragraph in which the quoted remark occurs is so admirable in its tone and in its appreciation of what is called manual training, that it is a matter of regret that it should be marred by the error to which attention is called.

Both the schools named have always disclaimed being "trade schools," and the Chicago school constantly refuses admission to boys whose parents bring them to be taught trades: and I presume that the St. Louis school has a similar experience. Neither school aims at manual dexterity, nor at any mechanical habit. The catalogue of the Chicago school says, "Education, not manufacture, is the idea underlying the manual training." The catalogue of the St. Louis school says, "All the shop work is disciplinary: special trades are not taught." If we aimed to teach a trade, or trades, we should pursue a very different method. The manual training school does not attempt to take the place of the apprentice system. Before mastering a trade, our graduates should enter a shop in which the desired trade is taught. It is true, however, that our pupils do acquire a certain amount of skill, and are trained in the methods of acquiring skill, so that they will secure techincal ability in much less time than boys who have not had this culture. You would be nearer the truth if you would say that the schools named "aim to fit boys for important positions *in life*."

The following statement concerning the present occupations of the 47 graduates of the Chicago school may be of interest.

In higher schools:		At work in manufacturing establishments	9
Technological	16	Civil engineering	2
Scientific	2	Business	10
Classical	1	Architecture, and Draughting	1
Law	1		—
Pharmacy	1		23
In Business "College"	1	Unknown	2
	—		—
	22	Total	47

The table shows that almost one half of the graduates continue their education, principally in polytechnic schools, the other half, entering at once into active life. Those who leave us before graduating, quite as many, as far as I can learn, enter business as anything else.

Of the 9 "at work in manufacturing establishments," some are learning trades, others in charge of minor departments. It would be unjust to you to deny that several of our pupils have taken important positions immediately after graduating: and one of our present senior class is now superintending the the erection of milling machinery in a western city.

Your brief editoral commends itself to me as a forcible presentation of the need and value of manual training, so called. It will certainly awaken thought in your wide circle of readers. Respectfully,

H. H. BELFIELD,
Director Chicago Manual Training School.

Chicago, March 15, 1888.

QUESTIONS FROM THE STATE EXAMINATIONS.

THEORY OF TEACHING.

December, 1886.

1. Distinguish a *fact* from a *truth*. Which is the more easily learned by the pupil? Discuss methods best adapted to acquisition and retention of *truths*.

2. Discuss both the strength and weakness of Mathematics, as an instrument for mental training.

3. Why should "object teaching" be employed in schools? Discuss its limitations and the training needed by a teacher before good results may be expected from it.

4. What most desirable habits of thought are enfeebled by the usual mode of tasking pupils? Suggest definite lines upon which reforms should be made, with reasons for your position.

5. What is gained in mental discipline and power by *observation* and *doing*. respectively? Argue your positions.

6. Can the power of attention be definitely cultivated? Sustain your statement. Show the respective values of *persistent* and of *ready* attention in the affairs of life.

7. What discipline and habit of mind is essential to a teacher's skill in the art of questioning? Show in what respects most teachers are weak in the conduct of recitation.

8. What wide-spread injury has been wrought in teachers' ideals of the nature of education, by closely graded systems of schools? What training is needed to counteract these misleading tendencies?

9. Discuss the advisability of requiring instruction in Drawing in the schools of every community; its value and limitation for practical use and for discipline.

10. Outline the work that should be done in Art of Teaching by teachers of "Free High Schools" of Wisconsin. State grounds of selection of specific topics.

ART OF TEACHING.

December, 1886.

1. Name the points in morals which can be most advantageously strengthened by school training. Briefly indicate method of development.

2. State the disadvantages of the total absence of text books from recitation; also the advantages to teacher and pupil. What is your practice?

3. Specify carefully the mental condition essential to a pupil's successful use of the "topical method" in recitation. What harm in its spurious use? What methods should be used when this is inapplicable? Why?

4. Discuss the best methods of making the Recitation an efficient discipline in "power of expression." In what respects do teachers fail most conspicuously to conduct this exercise efficiently?

5. Give specific directions for the proper seating, ventilating, and heating of an ordinary school-room.

6. State the advantages and the disadvantages of a graded course of study in rural schools. Discuss the prominent obstacles to their efficiency, aside from consideration of gradation.

7. What work should be done in the training for reading, before any printed page is used? Why? Indicate your methods, with reasons.

8. Arrange a Recitation Program for a typical rural school, so far as *succession* of classes, and *number* and *kind* of branches pursued by each pupil; but disregarding length of recitation. Give reason for the repetition of any class in one day, for the number of classes in each branch, and for the location of five important recitations in their order of succession.

9. Discuss your ideal of the most effective methods of impressing the correct spelling of the pupils' vocabulary. Would your method differ in any attempt to impart the spelling of words outside their vocabulary? Why?

10. Discuss the first two years' work in teaching penmanship, (*a*) what work, (*b*) obstacles to be over-come (*c*) method of presentation, and of correction of faults. To what do you attribute the low grade of penmanship prevailing in the schools?

THEORY OF TEACHING.

July, 1887.

1. Discuss the proper tests of the efficiency of a public school.

2. Duscuss the principles which should influence the method of *reviews* in school work.

3. What is meant by the "development" of a subject? When is it advisable in school work? When inadvisable?

4. In teaching morals, what aspects of psychology should be most definitely involved? What special training will best fit one for that work?

5. Give the best arguments for and against the value of formal examination of pupils in their class-work?

6. Discuss the special grounds of difficulty in teaching the English language to our pupils. Suggest a rational method.

7. In primary work, what three aspects of mental activity are most efficient in training the child? Suggest changes made advisable in the usual routine of school, if this were to be well done.

8. Discuss the efficiency and applicability of the "discipline of consequences" in the school training of children.

9. State ten (10) of the most important suggestions, bearing upon your work, which you have recently gained from educational literature; specify the work in each case.

10. State the arguments for and against the making of drawing a prominent branch of school work.

ART OF TEACHING.

July, 1887.

1. State five (5) prominent difficulties in school management.

2. Suggest the remedy for each difficulty named in foregoing answer.

3. What influence should the teacher exert upon the games and recreations of pupils? Suggest ways and means.

4. State carefully the objects of the recitation.

5. In what respects do teachers most signally fail to secure the objects stated in the foregoing answer? Suggest remedy.

6. Discuss the utility of "object teaching."

7. State, in order, the steps and conditions necessary to a valid engagement of a teacher by a school-board.

8. State, in order, five (5) important phases of a child's school training in an efficient use of language. Judged by these standards, what revision of ordinary methods should be made?

9. & 10. Discuss thoroughly the art of teaching Reading: (*a*) The central purpose in each of three (3) distinct stages; (*b*) prominent difficulties to be met; (*c*) methods employed in each stage.

THEORY OF TEACHING.

December, 1887.

1. Justify teaching children by means of objects, so as to show the limitations of the practice.

2. In training to observe, what ends are to be secured, and how?

3. What are the characteristics of a good memory? State some means for developing each in school.

4. What studies in a grammar grade best exercise the imgination of the pupils? Describe a reading exercise directed chiefly to this purpose, showing the kind of piece you would select and how you would use it.

5. State clearly what special value as a disciplinary instrument attaches to botany? to physics? to geometry?

6. What plan of teaching is best adapted to secure this special discipline in each case?

7. What is the object of a definition? (*b*) How many kinds of definition do you distinguish? (*c*) What are the tests of a logical definition?

8. Discuss the proper use of definitions in teaching.

9. Discuss briefly the culture of the emotions.

10. Trace the stages in the growth of self-control.

ART OF TEACHING.

December, 1887.

1. Discuss the value and limitation of mechanical discipline in schools.

2. When and why is "oral instruction" to be preferred?

3. State briefly (*a*) the chief advantages of book study; (*b*) the chief evils; (*c*) how you will seek to overcome these.

4. What would you have pupils learn by heart, and why? (*d*) What directions for study would you give a class in history, so that they may properly train their memories?

5. Discuss the proper use of written examinations; (*b*) state the tests of a good paper of questions.

6. What should be the chief end in view in teaching arithmetic in an intermediate school, and what are the directions most essential for securing this?

7. Why should English Grammar be taught? What plan of teaching is to be preferred?

8. What do you understand by drill? What is its purpose? State some ways in which drill is misused.

9. What difference do you make between questioning in order to test and questioning in order to teach? What should be tested in a geography lesson for example?

10. What two purposes are sought in a good plan for ventilation? State cautions necessary in ventilating by windows.

MATHEMATICAL SECTION.

AN OLD PUZZLE.

As none of us inherited a knowledge of the multiplication table, but had to acquire it, each for himself, so probably each teacher and pupil who studies "quadratics" in algebra, must find out for himself, as if nobody before him had ever made the attempt, whether any simple process will find the roots of these equations:

$$\left.\begin{array}{l}(1).\ x^2 + y = 7.\\ (2).\ x + y^2 = 11.\end{array}\right\}$$

So many requests have been received for a solution, that we have thought it might be worth while to use a little space in stating the nature of the problem.

In general, the solution of two quadratic equations involving two unknown quantities, requires the solution of an equation of the 4th degree. In the equations given above, the value of "y" obtained from the first, substituted in the second, gives

(3). $x^4 - 14x^2 + x + 38 = 0.$

To this rule there are certain exceptions:

(*a*). Homogeneous equations of that character are readily solved by substi-

tuting for one of the unknown quantities, the other multiplied by their ratio. ("Put vy for x.")

(*b*). Equations in which the two unknown quantities are similarly involved are often solved by various methods in which our chief reliance is the relation to each other of various multiples of $a+b$ and $a-b$.

As the given equations do not belong to either of these classes, no solution by the method of quadratics can reasonably be hoped for.

There are two principles, however, applicable to equations of one unknown quantity, which are of frequent use in reducing equations of higher degrees than the second.

(c.) In an equation of the form $x^n + ax^{n-1} + bx^{n-2} + m = 0$, (like (3) given above) m is divisible by all the values of x.

(d). And if a is a root of the equation, the equation is divisible by $x - a$.

Now in (3) we shall see that the only entire rational factors of 38 are 1, 2, 19, 58. Hence dividing by $x + 1$, $x - 1$, $x + 2$, $x - 2$, etc., we find that $x - 2$ is an exact divisor, and therefore $x = 2$. This, however, is got only *by trial*, and the same process will yield no *further* results. As much as this, moreover, could have been determined in an instant, by inspection of the original equations. The only apparent advantage gained by using equations (3) and the principles last given seems to be the certainty that there are no other rational integral values of x.

The difficulty our correspondents experience in dealing with these equations must arise from a failure to note that simultaneous quadratic equations are not in general solvable by the method of quadratics, but can be solved only in certain special occasions, under which these do not fail. What is wanted is a method of solving the equations given, as *quadratics*, which shall get *all the roots*. It may be added that a satisfactory solution should be just as applicable to equations having '6' and '13' in place of '7' and '11' as to the particular equations named. In all the solutions we can recall, soon or late principle (d) is applied, and then only obvious results are obtained.

For a complete solution, we are sure that the editor of the JOURNAL will find room, but we shall expect to receive by the same mail a new demonstration, giving the *exact area of a circle*.

ANSWER TO INTEREST PROBLEM.

A owes B $1,000, payable in equal annual installments of $200, together with annual interest at 6 per cent. on all unpaid balances. B sells the obligation to C who must have eight per cent. annual interest on all money due him at beginning of the year. What does C pay B?

SOLUTION.—The annual payments will be as follows:

End of first year, $200 of the principal and $60 interest = $260; second year, $248; third year, $236; fourth year, $224; fifth year, $212. What C pays for the

obligation with 8 per cent. interest will be decreased in amount at the ends of the several years by these several payments. This is the same as compounding the interest on C's money for the entire time and taking out the amounts of the several payments. Therfore C's money at compound interest, 8 per cent. for five years, amounts to \$1,305.30=\$260 for four years + \$248 for three years + \$236 for two years + \$224 for one year and \$212 final payment. Then \$1,303.30 ÷1.4693 amount of \$1 at 8 per cent for five years=\$949.63 answer.

W. J. BRIER.

THAT ALGEBRAIC PARADOX.

$\frac{1}{1-x} = 1 + x + x^2 + x^3 + x^4 \ldots\ldots$

If $x = 2$, then $-1 = 1 + 2 + 4 + 8 + 16 \ldots\ldots$

This is a series developed by division. If the division were to terminate here at the fifth term the complete form would be

$$-1 = 1 + x + x^2 + x^3 + x^4 + \frac{1-x}{x^5}$$

Substituting value of x, we get $-1 = -1$, no absurdity. If the series be carried to n terms, the complete form would be:

$$-1 = 1 + x + x^2 \ldots\ldots x^{n-1} \frac{x^n}{1-x}$$

The sum of all the terms of the second member except the last, is

$\frac{x^n - 1}{x - 1}$. As $x = 2$, we have $-1 = (2^n - 1) + (-2^n) = -1$.

The "absurdity" seems to arise from forgetting that the *fractional part* of the quotient is negative, and exceeds by one the integral part.

E. E. BECKWITH.

PROBLEM.

Given an angle of a triangle, a side adjacent and the difference of the other two sides, to construct the triangle.

Will some one send a solution, applicable as well when the given angle is obtuse as when it is acute? B.

NOTE.—Credit for a solution of the geometrical problem similar to that by Mr. Jackson, published in our last, is due to Frank Wood, of Baldwin, Kansas.

A PARADOX IN MATHEMATICAL GEOGRAPHY.

The difference in time between New York and Madison is one hour. Suppose a passenger whose watch indicates correct New York time should start from New York and not re-set his watch until he arrives at Madison; his watch is then one hour fast. He sets it back one hour, and thus "gains an hour" by

the journey, or lives that hour twice. To illustrate: should he arrive when his watch indicates six o'clock in the evening, he will already have lived the hour from five to six (the last hour on the train), but setting his watch back to five o'clock, he again lives the hour from five to six; hence that day for him contains 25 hours. Or, to illustrate by actual facts: a train on the Chesapeake & Ohio railroad leaves Richmond, Va., at 5:30 P. M., arriving at Cincinnati at 5:30 P. M. next day. The running time is 25 hours; and at Huntington, W. Va., the boundary between the Eastern and Central time belts, passengers set their watches back an hour. A train on the Baltimore & Ohio leaves Chicago at 5:10 P. M., arriving in Washington at 6:40 P. M., next day, but the running time is only 24½ hours; at Bellaire, O., passengers set their watches forward an hour.

Thus it is evident that in traveling *west* over a distance of fifteen degrees, or one railroad time belt, we *gain* or *repeat* an hour in order to have our reckoning agree with that of our neighbors at the place of stopping; and in traveling *east*, we *lose* or *skip* an hour.

The traveler who circnmuavigates the globe must make a change in his reckoning, not of one hour but of one day. In this case, however, in traveling *east* we *gain* or *repeat* a day in the calendar in order to have our reckoning agree with that of our neighbors at the place of stopping. Thus we would have two successive days which we would call Monday, February 13, 1888, if that should happen to be the time of making the adjustment. And in going *west* we *lose* or *skip* a day.

What is the explanation of the above paradox?

QUERIES.—Should a circumnavigator carry an ordinary watch around the world without adjusting it, would it indicate correct time when he arrives at the place of starting? Would it be right at any point on the journey? Would a calendar clock which marks the hour, day of week and day of month, need adjustment after being carried around the world—assuming that it could be kept running regularly—and if so, how would it need to be changed?

SILAS Y. GILLAN.

State Normal School, Milwaukee, Jan. 19, 1888.

IN THE SCHOOL ROOM.

SOME TEACHING DEVICES.

IN GEOGRAPHY.—In this work, statements, as such, committed to memory; the "pouring in" process, and the learning of facts for the sake of mere knowledge, are as elsewhere, to be avoided. Everything that can be, is to be made palpably evident by illustration, analogy, observation, and experiment. For example, in treating of the different degrees of heat in the atmosphere due to the direct and reflected rays of the sun, refer to the stove, the wall, and the

heating of the intervening space. In teaching that heated air rises, and that this rising causes lateral currents, call attention to what may be observed at a register, a fire-place, or over a slab of heated iron. The expansion of heated air may be observed in the popping of corn, baking of apples, etc. The difference in the rapidity with which earth and water receive and give off heat, may be shown by observing vessels filled with each, and exposed to the sun at noon, and again some time after sunset. The aim is to awaken an intelligent appreciation of what is already known in part by rote, or daily seen by eyes that see not, or daily done but not understood, and to connect it by its innumerable links with the unknown. The materials presented are to be used as an exercise ground for thought.

IN PRIMARY READING.—Provide pupils with paper—I use wrapping paper—rulers, pencils, and scissors. Have them write the reading lesson (one or two paragraphs), with the words wide apart, so they can be cut in squares, or oblongs. Then with rulers and pencils, mark and cut. Mix together and rearrange as in the assigned lesson. See that the work is very neatly done. It is also a lesson in form. On the same plan a spelling lesson may be learned, writing the letters on squares instead of the words.—*Journal of Education.*

IN TEACHING HOW TO STUDY.—In reading the lesson assigned, the pupils should be led to distinguish between that contained in the lesson which they already know and that which is to them unknown. This has a twofold value; it leads them to be hopeful to gain the unknown since they gained the known, and to concentrate attention upon the unknown. Especially in the first use of books; as arithmetic, they may be led to see that the definition or rule is merely telling in words what they already know how to do.

In all studies concerning material objects, the fact that they are studying about real things should be continually before the child's mind. Their attention may be called in geography to natural objects about them, defind or described in the text-book, or to resemblances or differences in the things around them, and those described in the geography. For instance, there may be schools in which no child has ever seen a river or a mountain, but all doubtless have seen brooks and hills. Let them learn by aid of imagination how a river differs from a brook, a mountain from a hill.

A paragraph may be read and a pupil may tell in his own language what it says. The attention should be directed to the salient points of a paragraph, or the key-word of a sentence. By a frequent use of the black board placing the outlines, or tabular analysis of the lesson before him, the pupil gains an outline of the whole, with the leading divisions; he has the skeleton which he is to clothe by study, which develops the central or life thought. A child led to study in this way will sooner be able to make a schedule of his own lesson.

Aid to right study may also be given through questioning in recitation. May not every recitation be counted a failure in which a great number have been able to answer correctly every question propounded? Is it not sometimes the great-

est service a teacher can perform for a pupil, to lead him to see by apt questions that he did not study aright? Such questions are especially important in arithmetic, leading pupils to discover the points at which the example may be taken apart.

Children may be encouraged to test their own knowledge of a lesson, as in history or geography, by drawing rough outlines of maps, and locating points. Thus self-help becomes manifestly an advantage, even to the oral repetition to some member of the family before coming to school.

But above all, the pupil should be led to consinder the meaning of the words he repeats, and to look them up or ask information concerning them. Intelligence is general enough so that all ordinary words and reference may be understood by children. When those occur that may not be comprehended, they may be strung on the golden thread of the future, as something to be afterward gained.—*School Journal.*

OUR BOOK TABLE.

THE ORBIS PICTUS.

THE ORBIS PICTUS OF JOHN AMOS COMENIUS, C. W. Bardeen, Syracuse, N. Y.; 200 pp., $3.00.

The revival of interest in the study of education has inevitably directed attention to John Amos Comenius, the great educational theorist and writer of the seventeenth century, and thus to his most popular book, the Orbis Pictus. The Encyclopedia Brittanica pronounces it "the first children's picture book," and it enjoyed a very wide and long continued popularity as a text-book. The publisher of this edition has taken pains to present it as nearly as convenient as it first appeared. The quaint illustrations are copies by photographic process from the first edition of the work, that of 1658, and the Latin text is from the same edition. The translation of this in parallel columns is from the English edition of 1727. The book was a first book in Latin, designed to give the young learner a systematic account of things he ought to know, while also equipping him with a a good Latin vocabulary. The master says to the boy: "we will go into the world and we will learn all." Accordingly he begins with God and the creation of the world, and describes all things for the learner. It was Comenius's plan to appeal to the senses, and accordingly he added the pictures, the parts of which are numbered, and in the text the word naming each bears the same number. The first plate represents the Trinity, but cannot well be described. The soul (No. 43) is represented by a dotted outline of a human figure. We read: "The heaven is wheeled about, and encompasseth the earth standing in the middle," and the cut so represents the matter. Of the flesh: "The skin being pulled off, the flesh appeareth not in a continual lump, but being distributed, as it were in stuft puddings, which they call muscles, whereof there

are reckoned four hundred and five, being the channels of the spirit, to move the members." Again: "The inward senses are three. The common sense, under the forepart of the head, apprehendeth things taken from the outward senses. The phantasie, under the crown of the head, judgeth of those things, thinketh and dreameth. The memory, under the hinder part of the head, layeth up every thing and fetcheth them out, it loseth some, and this is forgetfulness." But these glimpses of science two hundred years ago constitute only one of the many sources of interest in this quaint volume. Here we have pictures of European life in the seventeeth century which the simple text lights up with unconscious humor. Thus, of a feast: "The guests being brought in by the host wash their hands out of a laver or ewer, over a hand-basin, or bowl, and wipe them on a hand towel:" the barber "washeth one over a basin, with suds running out of a laver, and also with soap, and wipeth him with a towel, combeth him with a comb and curleth him with a crisping iron. Sometimes he cutteth a vein with a pen-knife, where the blood spirteth out." The quaintness is sometimes quite irresistible, as where we are told "The fool maketh laughter by his toysome actions," "the pismire is painful," whereas the Latin shows us we should now say industrious: "The elk, being bigger than an horse (whose back is impenetrable) hath knaggy horns," and here the Latin will not help us to explain impenetrable. This we appreciate highly: "Rhetorick doth as it were paint a rude form of speech with oratory flourishes." "A school is a shop in which young wits are fashioned to vertue," deserves to be stored up for its suggestiveness. At the close of the instructions the youthful learner is told: "Thus thou has seen in short all things that can be shewed" and bidden, "Remember these things; fear God and call upon him, that he may bestow upon thee the Spirit of wisdom." The pictures are not only instructive in relation to the text, and for what they show us of life two centuries ago, but as samples of the art of engraving at that time. Indeed it would be hard to find another educational classic in every way so interesting as this, and the publisher has done good service in reproducing it so faithfully, and making it again accessible to teachers. The world has progressed since the days of Comenius, and schools and text-books have progressed also.

—FIRST BOOK IN PHYSIOLOGY AND HYGIENE, by J. H. Kellogg M. D., (Harper & Bros. 167 pp., 40 cts.) seems to us a manual of unusual excellence for third or fourth reader pupils. It is written in very plain and simple language, and is, as such books for children ought to be, mainly a manual of hygiene, with physiology enough to make the former thoroughly intelligible. The writer has most happily escaped dryness and technicality without sacrificing accuracy, and has thrown in a large number of familiar illustrations of principles such as come within the experience of every child, so that he cannot fail to understand and enjoy them. Moreover the writer is very happy in suggesting experiments which are within the range of any teacher, and will add further interest and reality to the instruction. The book is indeed entirely within the comprehension of children eight years of age, and can hardly fail to interest them. The

portions relating to stimulants and narcotics seem to us very judicious and satisfactory.

—PILGRIMS AND PURITANS, by Nina Moore, (Ginn & Co., 197 pp., 85 cts.) tells the story of the early settlement of Massachusetts so far as convenient in the language of the original documents, using chiefly those of Bradford, Winslow and Winthrop. This lends to the story the charm of personal narrative, and now and again a quaint simplicity exceedingly delightful, The illustrations and maps are excellent and the notes at the end of the volume add much curious and interesting matter.

—SHAKESPEARE AND CHAUCER EXAMINATIONS, by W. T. Thom, (Ginn & Co.; 346 pp., $1.10) has reached a second edition, and this may show the usefulness of the work. Its author is professor of English literature in Hollins Institute, Virginia, and the book contains the examinations by which its pupils have taken the prizes offered by the "New Shakespeare Society" in England. The examinations are upon Hamlet, Macbeth, King Lear, Othello and the Merchant of Venice, and on the Prologue and two tales of the Canterbury Tales. The questions on Hamlet are divided into historical and biographical, grammatical, philological and æsthetic, and the same classification might be applied to those on the other dramas. These are very suggestive and helpful, as showing what the study of Shakespeare may become in competent hands. The answers of the candidates are remarkably complete, discriminating and satisfactory. It would be hard to find a book more suggestive and helpful to one who wishes to study or teach Shakespeare.

—THE VICAR OF WAKEFIELD is the latest issue in Ginn & Co's Classics for Children, (222 pp.; 40 cts.) The book is very slightly changed by the editor, for it needs little modification and is as delightful now as when it first appeared.

—COMMON SCHOOL LAW, Fourteenth edition, by C. W. Bardeen, (C. W. Bardeen, Syracuse, N. Y., 115 pp., 75 cts.) well deserves the popularity it has secured. Originally a digest of New York laws for the teachers of that state, it has been expanded and annotated so that it is a presentation, and a very satisfactory one also, of the general principles of school law in all the states. All the most important principles are clearly presented, and the quotations from decisions of the courts which are freely introduced add much to the interest and value of the discussions.

—NUMBER STORIES, by L. J. Woodward, (Ginn & Co., 166 pp.,) is an exercise book in primary arithmetic, in which a sort of unity is given to the matter of each lesson by making the problems relate to one subject and often to constitute a sort of story. The plan is excellently wrought out and must contribute to the interest of the number exercises.

—HILLER'S FIRST COURSE IN GERMAN, (I. Kohler, Philadelphia, 72 pp.,) follows the natural method in a series of graded reading lessons in German.

—THE NATIONAL SIN OF LITERARY PIRACY, by Henry Van Dyke, D. D., (Charles Scribner's Sons, N. Y., 5 cts.) is a vigorous presentation of the moral wrong of literary piracy, its punishment and its cure. Mr. Van Dyke finds that

the punishment is already upon us, in the perversion of national taste and manners, the partial atrophy of our native literature, and the weakening of the national conscience.

—A TREATISE ON PLANE SURVEYING by David Carhart, (Ginn & Co.; 498 pp., $2.00,) is a practical guide for the student and surveyor. It describes minutely the instruments and how to use them; gives many problems and illustrates the best methods of solving them, and furnishes abundance of field exercises by which practical experience with instruments and problems may be acquired. The chapters on public land surveys, city surveying, and mine surveying are especially full and excellent. The book is also well furnished with the mathematical tables necessary for field work.

MAGAZINES AND PAMPHLETS.

—Charles Dudley Warner's "Studies of the Great West," in *Harper's* for April, will naturally attract readers in Wisconsin greatly, especially as he devotes much of his interesting papers to this state. Captain Charles King's "The Leavenworth School" is a very delightful sketch. "A Winter in Algiers," and "The City of Columbus" are capital descriptive articles with abundant illustrations. For stories Joel Chandler's "Ananias," and Lafcodio Hearne's "Chita," are admirable, each in its own way.

—*Scribner's* has a rare variety of illustrated articles.—The conclusion of Mr. Ropes' papers on "Waterloo," Mr. Field's on "Gibraltar," with many original and striking illustrations, and Mr. Longfellow's suggestive discussion of "Greek Vases," which is indeed a model popular article on art. The West receives attention in Mr. Baldwin's "The Center of the Republic." Gen. Greeley's discussion of summer climates, "Where Shall We Spend Our Summers," will also attract attention. Mr. Stevenson's papers are among the most attractive features of this magazine, and the reader hastily looks over the illustrations to get at the little pictureless sketch at the close of the number, which somehow outshines them all.

—The March *Century* in Topics of the Time discusses "English as She is Taught," which it takes as in some sort a fair exponent of the defects in our public schools. The principal one is that "we load childhood with a jargon of confused facts and theories that disciplines nothing, that effects nothing, that is forgotten as soon as the brilliant hour of its parrot-like repetition has passed." This attack upon cramming is supported in Open Letters by Miss Caroline Le Row, who traces the responsibility for the mischief to boards of education composed of the most influential and honored men of the community, who assume these responsibilities and direct the schools while they "know little or nothing of the laws of mental development and possess no practical knowledge of school room work." One is prone to ask what has become of the city superintendents in New York? There are some excellent practical

suggestions in "Mind Training," and the discussion of "The Education of the Blind" is very suggestive,

—*Bulletin No. 13 of the University Experiment Station* is devoted to experiments in raising grain, potatoes and grapes. A glance at it shows of how much value the station may be to farmers who care to profit by its labors. Here are reports on a large number of varieties of each product, showing the amount and character of the yield, and the time of sowing and gathering and other important details.

—*How to Enliven Geographical Instruction*, by Dr. Konrad Gauzenmuller, is a brochure of thirty pages, reprinted from Bulletin No. 4 of the American Geographical Society. The process is by making known the meanings of geographical names. "To illustrate, the teacher will write on the blackboard the words: Pe = north, Tong = east, Nan = south; Si = west, King = capital, Hai = sea. If under these be written the names Peking and Nanking the pupil will see at a glance" what they mean. But a little of this goes a great way, as a glance at the crowded pages of this pamphlet will convince any teacher who objects to cramming children's minds with useless lore.

LITERARY ITEMS.

—Robert Louis Stevenson, who perhaps may be called the foremost of living English novelists, is a native of Edinburg, and is now thirty-seven years of age. He studied law, but never entered on its practice, as his decided bent for literature had then manifested itself. His works are already numerous, but the most distinguished is "The Strange Case of Dr. Jekyll and Mr. Hyde." He has married an American wife and is living at present at Samoe, in the Adirondacks.

—The death of A. Bronson Alcott removes a very unique and interesting American philosopher. He was a sort of mystic. He held that the world is the product of a lapse of the soul, which, falling away from God, gave rise to lower souls, and so finally to matter. He was in early life engaged in teaching, and one of the most interesting studies in pedagogy in this country is entitled, "A Record of a School," being in fact an account of Mr. Alcott's school, which was very original. Dr. Harris ranks him with the great mystics, and thinks that his reputation as a thinker will grow very greatly in the future.

—Only a few days after the death of her father Miss Louisa M. Alcott, the popular authoress and story teller, passed away suddenly at Highlands, Mass., of spinal meningitis. She began to write stories when sixteen years of age, and soon earned her living by her pen. During the civil war she was in Washington as a nurse of the wounded soldiers, and her "Hospital Sketches" relate some of her observations there. "Little Women" was her most successful book, which has been pronounced by some good judges "one of the best books for children ever written."

NEWS AND NOTES.

—Round trip rates from Wisconsin points to San Francisco to attend the National Educational Association this summer, to go by one route and return by another are now arranged as follows: Eau Claire, $72.29; La Crosse, $70.85; Prairie du Chien, $70.45; Madison, $73.56; Janesville, $72.54; Beloit, $72.13; Oshkosh, $75.62; Racine, $74.00; Milwaukee, $74.50.

—The Committee of the Wisconsin Teacher's Association to whom was committed the matter of a summer school for terchers held a meeting in Madison March 17. All members of the committee were present as well as Pres. Chamberlin and Professors Birge and Daniells, of the State University. After a full discussion it was decided that the school should be continued the present summer, opening the latter part of July and holding for four weeks. To Pres. Chamberlin, Prof. Birge and Prof. Daniells was committed the duty of securing instructors and laying out a course of study for the summer. To raise means for sustaining the school Supt. Chandler and Prof. W. H. Beach were charged with bringing the enterprise before the boards of regents of the state university, and of the normal schools, and seeking financial aid from them. Plans were also made for placing the school upon a permanent financial foundation. We hope to give full details of arrangements in our next number, and do not doubt that a large number of teachers in this state will avail themselves of the advantages thus offered them this summer.

—The high school at Reedsburg, Allen B. West principal, is about to purchase books for the school library amounting to $56.75, the proceeds of a lecture course maintained by the school during the past winter. The board recently added seventy-five dollars worth of physical apparatus to the outfit of the school.

—Those expecting to attend the State Examination for Teachers' Certificates should notice carefully the date fixed in the announcement elsewhere. This is later than has been customary, owing to other arrangements for the summer in which many of our teachers are interested. There are also details regarding the examinations which should be thoroughly understood. We hope to publish the program of the examining board in our next number.

—An evening School has been successfully inaugurated in connection with the public schools at Whitewater.

—Prof. W. C. Sawyer, formerly institute conductor for the Oshkosh Normal School has returned from Europe, and is now living at San Jose, California. His "Complete German Manual," published by J. C. Buckbee & Co., Chicago, is very favorably received by teachers who have examined it. Prof. Sawyer is at present engaged in preparing for the press two new books, annotated versions of the old legends on which Richard Wagner founded his leading operatic dramas. We are glad to learn that the chimate of California proves very favorable to him, and that he has improved in health steadily since going there.

—Prof. Hutton wrote at once on reception of our March issue: "Did you wipe your spectacles when you read the date of the treasurer's report in the printed proceedings of the N. E. A. at Chicago? The report is for the year closing July, 1, 1887, and does not include the Chicago meeting. Your comments in News and Notes, are correct with *Chicago* deled out and *Topeka* put

in. See page 37 of the proceedings. Chicago did much better, as the report for July 1, 1888, will show." We shall not charge that mistake up to the spectacles, nor to the printers. It was a bit of blundering, due to haste. The Chicago meeting produced not quite twenty times as much as the Topeka gathering.

—The time for the summer meeting of the Wisconsin Teachers' Association at Eau Claire has, we understand, been definitely fixed for the third, fourth and fifth of July. Some appropriate exercises will be introduced on the fourth to mark the day and it is hoped that this will prove a novel and attractive feature of the program.

—We have received a catalogue of the school library of the third district, Appleton. It shows a fine collection of 325 volumes, which have been purchased within two years, and the district purposes to expend about one hundred dollars per year in making additions to it. O. E. Wells is principal.

—Prof. George C. Shutts, for nine years Professor of Mathematics in the Potsdam, N. Y., Normal School, has been engaged to take charge of the Mathematical department of the Whitewater Normal School, which Prof. Pray leaves at the commencement of next year to take the post of Institute Conductor in the same school.

—The series of articles on physiology and hygiene which have been contributed to the JOURNAL by Prof. F. H. King, of River Falls Normal School, is concluded in the present number. They have merited, and we trust they have received the attention and hearty approbation of our readers. We do not know of any other way in which our pages could have been used more effectively in illustrating the true experimental way of teaching elementary science. The example is all the more instructive because it is so commonly assumed that physiology is that branch of natural science which least admits of such treatment. Prof. King has demonstrated the contrary, and that, too, without introducing apparatus beyond the reach of any intelligent teacher. This method ought to be introduced into our intermediate and grammar schools, because it contributes to the right development of the pupils, which the method commonly in use does not. Any teacher who has followed these articles and tried to put in practice their suggestions will have learned much about how to teach. If you have neglected them as they appeared, do not fail now to turn back and study the articles.

WE invite attention of our readers to our advertising columns. They will find there information of much value to them. Mr. Vaile offers an opportunity to try his school paper at a nominal expense. Mr. Brewer's agency is well known to Wisconsin teachers; how Powell's Language series is gaining in the state will be found there; Mr. Kellogg's new manual for physiology teaching many will wish to know more of; the Eclectic Series of books has become very full and valuable; the JOURNAL offers premiums and clubbing rates worthy of attention.

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MATHEMATICS IN OUR PUBLIC SCHOOLS.

In arithmetic pupils are deficient in rapidity and accuracy in the applications of the fundamental operations of addition, subtraction, multiplication and division. They work slowly and make frequent mistakes; and are deficient in ability to think comprehensively and accurately. All seem desirous to get the *answer*, and with many this desire has acquired an abnormal development; the methods employed in the solution of the problem, and the reasons for their employment, occupy a subordinate place; and too often the answer is obtained by some jugglery of figures imperfectly understood. Instead of showing a firm and comprehensive grasp of the principles involved in the problem, the lack of this is the prominent feature. Then, too, the work is so poorly arranged that reading examination papers is by no means a pleasant occupation.

In algebra I find pupils, as a rule, quite well prepared in the fundamental operations and in simple equations, though deficient in rapidity of working; they also seem quite well prepared in such problems as those relating to the hare and the hound, and finding A's age from its relation to the age of B, which in turn depends on that of C; but I find them deficient in the principles of factoring, and wantonly deficient in theories of exponents, calculus of imaginaries, radicals, and quadratics, and in operations involving generalizations. In fact, so marked are the defects in these subjects that I largely confine my examinations to them, feeling sure that one who shows proficiency there will be capable on other points.

In geometry I usually find pupils fairly well prepared on the demon-

strations as they are found in the books, but they are easily confused if the statement or the requirement of the proposition is modified. They are markedly deficient in the ability to solve what are called original exercises. They often tell me when I speak of this that their teachers did not require this, as they did not consider it essential. Of course I took pains to assure them that their teachers were mistaken; that the exercises really constituted geometry while the demonstrations of the propositions as given are the introduction to geometry, though this would make our geometries, excepting one or two very recent ones, almost entirely introduction.

These very briefly are some of the facts concerning the mathematical qualifications of those who come to me from our schools. Of course I do not wish to have it understood that all are burdened with these disabilities, for many are quite well prepared; but far too many are deficient, and I am speaking of defects; substantially the same complaint comes from one or two leading eastern colleges. I think, then, that I shall be justified in reaching the following conclusions: pupils are deficient in ability to work rapidly, neatly and accurately; they are deficient in power to grasp the subjects under consideration; they make the answer the prominent thing rather than the method and reasoning involved in the solution of the problem; they are not properly trained in the fundamentals of arithmetic, algebra and geometry. This may seem like too general and severe an arraignment, but I wish to emphasize defects in order to have them corrected if possible. Above all, I wish to emphasize the fact that the greatest of all defects is the inability or the unwillingness of pupils to think earnestly about the work in hand. This is a well-nigh universal defect. We who are out of school are subject to it; we inherit it perhaps. To be able to think clearly, vigorously, continuously, is an acquirement of transcendent importance. We all recognize the value of the ability to think, yet we all dislike to think, perhaps because we dislike hard work, and thinking if profound is hard work. Training to think should be made much more prominent in our systems of instruction. One cause of the defects noted lies in the nature of the subject: there are many pupils who are almost entirely unable to grasp mathematical abstractions. Prof. Safford says: "It is an old complaint against mathematics as a mental discipline that it is too abstract and impractical; this as applied to the old theory of mathematics, and to Mathematics as we find it in too many of our schools, is true;

but the complaints are groundless when mathematics takes its proper place; the modern theory, and no doubt the true one, is that Mathematics is the abstract form of the natural sciences, and that it is valuable as a training of the reasoning powers not because it is abstract, but because it is a representative of actual things."

Again, our text-books are often faulty: Our algebras of the more advanced type are often quite good, but the elementry ones are deficient in the points most needed, in quadratics and radicals, while they have a superabundance of those problems calculuted to tickle the pupil and make him think that he is learning, when in truth he is engaged in a mild form of dissipation.

Again, I am not sure that our arithmetics are quite what they ought to be; it was perhaps well to adopt something else than the old plan of setting rules which the pupil was expected to memorize, too often without understanding, and then to work problems in a particular way because the rule said so; but the plan used in some of our present books of working one or more problems as models, giving at the same time more or less (often less) explanation, is not much better; the whole plan of working model examples is often open to criticism; in spite of the earnest efforts of teachers to the contrary a large number of pupils will persist in following the model, blindly but confidently, and the inevitable result is that they never acquire independence and power in thought. Our geometries are defective from their very fullness of helps; the demonstrations are fully developed, and the pupil is expected to carefully and too often litererally reproduce them, and both teacher and pupil fondly imagine that they are developing the reasoning and logical facilities when in truth they are dwarfing them. Some propositions, of course, should be given in full, but at least half of them should have given only hints about the demonstration, with the figure required, and the number of carefully selected original exercises should be multiplied several fold.

Another cause is lack of time, or else an improper distribution of sufficient time among the various subjects; in almost all cases time enough is not given to the acquisition of the power of rapid and accurate computation, and to the forming of habits of neatness in work; this should be made a prominent feature during the whole course of education, and methods for abridging the work should be gradually introduced as the pupils become able to appreciate and use them. I have doubts whether time enough is given to the subject of percentage, at

least in its practical, every-day aspect, while too much time is spent, not to say wasted, in trying to get an acquaintance with our miserable system of weights and measures. Why our English ancestors ever devised such a system, or why we persist in using it when a much better and simpler one is at hand; I am unable to imagine. Too much time is given to cube root, at least in the attempt to deal with large numbers. It is, indeed, a waste of time to have pupils use large numbers in any kind of practice work. In algebra there is excess of time given to certain puzzles which do not even give the needed skill in elimination, though they have a doubtful value in developing the power to form equations. I am well aware that I touch on delicate ground here; there are certain problems in arithmetic, algebra, and geometry somewhat of the nature of puzzles whose utility when solved is doubtful, and there are certain teachers who are fond of saying, mathematics is my forte, (what they mean by that I was never able to fathom,) who delight in firing these off at all whom they meet, and who measure one's ability by his skill in their solution. I frankly confess that I experience a shivering sensation in the region of my mathematical vertebra, when introduced to teachers, lest some puzzle-crank be in the number. This may be a confession of weakness on my part, yet I firmly believe that it is not a profitable occupation to spend the time of teacher or pupil in the attempt to solve some puzzle which is, too often, far beyond the capacity of the one attempting the solution. Do not misunderstand me here. I firmly believe in numerous problems and exercises, but I wish them properly adjusted to the acquirement of the one attempting them. No one need fear becoming effeminate by the use of our ordinary mathematics; there will be difficulties enough to brace one up without resort to the traditional puzzles handed down from generation to generation. My advice to all, especially to teachers, is, extend the bounds of your reading. Don't waste time by going over and over again the same book, but step out into new fields: read advanced works in arithmetic, algebra, and geometry. If you can't solve all the problems, pass on, and keep going as long as you can; then on review difficulties will disappear, and you will soon have the pleasing consciousness of knowing something; you will possess a far different power from that resulting from spending months in a regular siege of some puzzle. To flank a difficulty by reading around and beyond it is often far more effective than to take it by storm or siege.

One other cause, not the least, I am sorry to say, lies in the teachers themselves; too many teachers come to their work poorly prepared; indeed, few are properly prepared. They do not possess that versatility and abundance of knowledge which enables them to vary the conditions of the problem, and thus adjust it to the peculiar needs of individual pupils. Too often the solution is not well understood by the teacher, or only one style of explanation is known, and to this the teacher rigidly adheres and requires the same of the pupil, thus destroying all freedom of thought. One who has spent some time as examiner of teachers for certificates is astonished and saddened by the feeble grasp of too many teachers upon the subject, not to speak of the ignorance displayed by some. Our teachers too often manifest their own inability to think, both in examination and in the school-room, and this state of affairs renders the chance of their pupils becoming thinkers fearfully small.

Our arithmetics require too much; a teacher brave enough could now throw out a large part of compound numbers without producing fatal results to the pupil. It is absolute cruelty to require a child to learn and use our foolish system of weights and measures. I am not sure but that our teachers would do well to refuse to teach other than the metric system, and thus compel the needed change. Again, to expect teachers to labor hard to impart ideas which are easy to acquire when the pupil understands the elements of algebra and geometry, does not seem wise. Why not recognize the fact that algebra is arithmetic generalized, and introduce it as soon as the pupil has made a moderate advance in arithmetic? It would simplify matters wonderfully. We could then introduce the theory of exponents and logarithms, and save much time now almost wasted in efforts to produce clear ideas on square and cube root; for the use of logarithms makes the extraction of roots a pleasure. Then if we introduce the elements of geometry, which would go well with drawing, we should save the time almost wasted in trying to impart crude and largely inaccurate methods of explaining rules for mensuration.

I feel quite certain that a book could be prepared, giving the essentials of arithmetic, (after the elements are learned,) and the essentials of algebra and geometry as they are involved in arithmetic, in a compass little if any larger than that of Wentworth's Complete Arithmetic, and that in the use of this far more could be accomplished in arithmetic than is now done, not to speak of the advances made in algebra and

geometry; and this with something like comfort on the part of both teacher and pupil.

As to the qualifications of teachers, I prefer to say but little; they should possess a fullness of knowledge on the subjects to be taught, such that they would not be compelled to require the pupil to give his explanation in some set form, such as that prescribed in our mental arithmetics. I lose patience when I have a pupil giving his explanation in that set form, the teacher correcting if the slightest deviations occur. For my part I question the knowledge of pupils when I find them adhering too closely to a form, and I often interrupt by asking what they mean, and not rarely get the answer, "I don't know." I do not mean that an explanation should not be required, for I feel that much greater prominence should be given to explanations than is usually the case; but in all cases the pupil should be required to give his own understanding of the problem in his own words, the teacher guarding the grammatical accuracy of his language, of course.

In regard to the extent of the teacher's knowledge let me quote from another, eminent as a mathematician and educator: "The qualification of the teacher of mathematics should on the mathematical side include two things. First, a knowledge of more subjects than he expects to teach; that is, whoever is to teach arithmetic must know algebra, including logarithms, and plane geometry. The teacher of plane geometry must be well versed in solid geometry and plane trigonometry. Second, a knowledge of the applications of the subjects to be taught; thus the teacher of arithmetic must be thoroughly familiar with weighing and measuring, and with the practical applications of the metric system." I would add to this, that in order to have pupils work and think the teacher must not only know, but also be able to work and think in the presence of the pupils. *T. A. Smith.*

BELOIT, WIS.

ARITHMETIC AS LOGICAL TRAINING.

Some points made by President Walker in his article on "Arithmetic in the Schools," deserve to be very carefully considered by those charged with the preparation of courses of study, or the actual work of instruction in the school. The desire to produce "complete" text books, to excel all others in the number and variety of topics treated,

especially under the head of "practical applications," led the makers of books to introduce questions and processes relating to almost all subjects of human thought, and particularly all forms of commercial transactions. The expansion of the sections relating to stocks, bonds, gold investments, and problems in interest and banking, was specially noticeable during and immediately after the late war. If the text-book could have been considered something of a cyclopedia, and these sections omitted from regular work of grammar classes, and presented only to classes of older, advanced pupils, who already knew something by actual experience of the facts of business life involved in properly understanding the matters referred to, no great harm would have been done. But unfortunately to teach "the Arithmetic" took precedence in the minds of some committeemen and many teachers over the teaching of "Arithmetic," and as a consequence children of a dozen years of age might be found wearily floundering along through these subjects under the care of some young lady as ignorant of the facts of mercantile life as her class, who wouldn't know a "U. S. 5-20" if she saw it, and who knew as much about the "course of exchange" as of the precession of the equinoxes. "Shall not what is 'in the book' be taught?"

But in other sections the so-called practical questions are to be solved by methods that would make practical business men smile. In a book most widely used is a problem in which the pupil is required to find the number of bricks in a certain wall. The sample solution requires him to find the exact number of cubic inches in the wall, and exact volume of brick to fraction of a cubic inch. But one text-book has come to our knowledge that handles carpet measurement in a sensible, practical way; and, as if to atone for this departure from orthodox standards, that author solves some examples relating to papering rooms, by finding exact area of walls, doors, windows, &c., and using every scrap of each roll. When leading teachers and authors sanction such things, what can be expected of rank and file? Said a bright young man a few years ago: "It will do for you to tell us that this example cannot be worked without using algebra, and that these topics ought to be omitted in county schools. Probably you are right, but we can't go into those county schools and say so. *We must teach them.*" He had been there and knew whereof he affirmed. That we are correcting this so slowly is partly the fault of the teachers. Educational publishers

will show much less than their usual enterprise if they do not promptly furnish books to meet any intelligible or persistent demand. But the abuse is likely to continue so long as teachers and superintendents condemn as "light" the books which do not give such subjects prominence, and show by their examination papers that a mastery of these subjects is in their judgment essential to arithmetical proficiency.

Regarding a second point, that accuracy in simple fundamental operations is not the usual result of the school training, there will hardly be a doubt that the truth is fairly stated, if we understand such uniform accuracy as is necessarily attained by the professional accountant. It is also true that much trouble is caused in higher classes in mathematics by blundering in simple computations. These facts are not at all creditable to teachers or scholars, when we consider that this subject forms a part of the daily work in all schools for a period from seven years upwards. There is nothing specially new in the suggestions that the drill work should be with small numbers, using many simple examples until *the numbers less than one hundred* are thoroughly learned, so that mental work is accomplished with ease and accuracy, using pencil only when the numbers are too large to be kept in mind. This is sound sense, and needs to be stated as forcibly and frequently as possible, until it becomes the usual practice in the school room, rather than the exception. The boy who can add a short column of figures with unfailing accuracy, will easily adjust himself to the necessities of the office or counting room.

But the inference which is likely to be drawn from the article in question, though nowhere stated therein, is that schools of the present day are behind their predecessors; that scholars not only fail to do well, but do not even compare favorably with those of the last generation. To those who believe our schools are deteriorating, we commend the following extract from some remarks before the Boston School Committee by a member of the School Board:

"The gentleman says our pupils are very inaccurate in Arithmetic. He says, 'Unfortunately in this matter of inaccuracv in the use of figures resulting from the manner in which arithmetic is now taught in our schools, the evidence is overwhelming in character and amount. When I was a boy, I remember some presidents of banks had the same better opinion of the generation that had gone by. The actual facts speak right out for themselves and destroy mere impressions.' 'I have examined the papers from year to year, and find a gradual improvement,' says Professor Peterson. The records of Harvard college

for eight years past prove that our Boston graduates are more accurate to-day than ever before. Finally, the fact is before you that forty years ago the pupils of two of our grammar schools answered correctly at a Franklin Medal examination only 44 per cent. and 52 per cent. respectively. To-day these very same schools answered correctly 89 per cent. and 96 per cent. of these very same poblems. The difference in favor of the boys and girls of to-day is astounding. This seems to be the evidence that is overwhelming in character and amount.' I only wish our progress in all things was equal to the progress of the boys and girls in Arithmetic since the last generation."*

That part of President Walker's article that seems most likely to lead to unfortunate results, if easy inferences are followed to their natural conclusion, is the doctrine that the province of arithmetical instruction includes but little more than the storing of the mind with the elementary facts of number. He would omit all that kind of work in which the "statement" would cause any difficulty to an ordinary child pursuing the subject. In short, simple computations are to form the body of the work in this branch until pupils leave the grammar schools. We are not sure that if we were to prepare a definite statement of the work in detail for any one month of the course, it would differ much from approved standards, but we are certain that mischief would result from the attempt by teachers in general to carry into practice the theory laid down. That accuracy in the fundamental operations is a first requisite is readily granted. That it is the sole legitimate aim we cannot believe.

The psychological argument is based on the relatively later development of the reason as compared with observation, memory, imagination. But this statement is liable to be seriously misunderstood. That the reason lies dormant through childhood, in any process of development, springing into activity only on the approach of physical maturity, cannot be believed by any observer of the ways of children. Besides, this is expressly disclaimed by those who advocate the teaching in our elementary schools of natural philosophy and other branches of science, who uniformly condemn the common rote work and memoriter recitations in geography and kindred subjects. "The pupil must be taught to think, so that he will recognize the natural connection between hight of land and river courses, between cities and water communication." He must see the pump operate, and by observing its operations under different conditions, discover the laws of nature applied in its construc-

* N. E. Jour. of Ed., July 7, 1887.

tion. Less than this is mere learning by rote, and as such has no defenders. Children reason as naturally and easily as they observe. As the mind must be possessed of some concepts to reason about, it is clear that the relatively greater mental activity will in childhood be devoted to getting concepts, while as the stock accumulates, greater prominence is given relatively to classifying facts and discovering logical relationships. But it seems as unphilosophical to defer all reasoning to advanced school life as to cease to observe and remember after the period of childhood is passed. We neither spare observation in advanced work nor reasoning of proper kind and amount in elementary work. There is no more wisdom in arbitrarily separating the faculties of the mind and attempting to secure their separate and consecutive development than in attempting to divide physical and mental training, postponing the one to the other. Does nature develop the bony, muscular and nervous systems consecutively? Does she develop an extensive system of roots before the plant is allowed to put forth a leaf? Rather let us seek the "whole man" through developing *pari passu* all the capacities of the child.

If there is any reputable school which does not make a respectable course inathem matics an essential part of *all* its courses of study, it has not happened to fall under our notice. Now what the study of mathematics can do for an advanced student, the logical exercises of arithmetic can and should do for his younger brother. The relations of sides and angles of a triangle have no more to do with success in business than the reason for "inverting the divisor." But the power to perceive the distinction between cause and effect, between accidental coincidences and corollaries, between condition and conclusion, between knowing and guessing, between certainty and even a very strong probability;—surely this is no easy and insignificant achievement. But to cast out from the arithmetical teaching in the common schools all logical exercises would be to remove the one opportunity to develop this power by the means specially adapted to that end.

On this point Professor Fitch says:

"We are so accustomed to hear arithmetic spoken of as one of the three fundamental ingredients in all schemes of instruction, that it seems like inquiring too curiously to ask why this should be. Reading, writing, and arithmetic, these three are assumed to be of co-ordinate rank. Are they indeed co-ordinate, and if so on what ground? But counting—doing sums—how often in

life does this accomplishment come into exercise? Beyond the simplest additions and the power to check the items of a bill, the arithmetical knowledge required of any well informed person in private life is very limited. For all practical purposes, whatever I may have learned at school of fractions or proportion, or decimals, is, unless I happen to be in business, far less frequently available to me in life than a knowledge, say, of the history of my country, or of the elementary truths of physics. The truth is, that regarded as practical *arts*, reading, writing, and arithmetic have no right to be classed together as co-ordinate elements of education; for the last of these is considerably less useful to the average man or woman not only than the other two, but than many others that might be named. But reading, writing, and such mathematical or logical exercise as may be gained in connection with the manipulation of numbers, *have* a right to constitute the primary elements of instruction. And I believe that arithmetic, if it deserves the high place it conventionally holds in our educational system, deserves it mainly on the ground that it is to be treated as a logical exercise. It is the only branch of mathematics which has found its way into primary and early education; the other departments of pure science being reserved for university instruction. But all the arguments in favor of teaching algebra and trigonometry to advanced students apply equally to the teaching of the principles or theorv of arithmetic to school boys. It is calculated to do for them exactly the same kind of service, to educate one side of their minds, to bring into play one set of faculties which cannot be so severely or properly exercised in any other department of learning. In short, relatively to the needs of a beginner, arithmetic, as a science, is just as valuable,— it is certainly as intelligible — as the higher mathematics to a university student. If cyphering means a collection of artifices for doing sums; if the great object of learning the art is to be fitted for the counting-room or shop; then the instinct which makes governesses and their pupils shrink from Arithmetic is the true one. But if arithmetic is a study capable of yielding intellectual fruit, if it helps to quicken and concentrate the attention, to bring under control the reasoning faculty, to show by what method we can proceed from the known to the unknown, to enable us to perceive the nature of a fallacy, and to discriminate the two sides of the fine line by which the true is often separated from the false; if, in short, the study of arithmetic is mainly healthful in showing what truth is, and by what methods attained, then surely it bears just as close a relation to the needs of a woman's life as to those of a man. For she, too, has intellectual problems to solve, books to read, opinions to form ; and she will do all this to good purpose in just the proportion in which she brings to her work a trained and disciplined understanding, accustomed to analyze the grounds of belief, and to proceed by slow and careful steps from premises to inference." *

The more we reflect, the greater our surprise at the part of the *Academy* article which condemns so strongly practical problems, and exer-

* Lectures on Teaching, Cambridge, 1883.

cises in which the pupil spends more time in making the statement (analysis) than in performing the necessary computations. We are very confident that no one would more severely criticize the unfortunate teacher who followed exactly the advice given, than the learned and practical writer of that article, should he find a class perfect in the multiplication table, yet unable to apply their knowledge at a moment's notice to any ordinary problem of business experience. We are forcibly reminded of the dangers attending the use of a magnifying glass. It brings some things before us in startling clearness, and we easily forget how greatly it narrows the field of vision. The learned author has not said one word too much regarding the absolute necessity of accuracy in fundamentals, and we only regret that he did not then turn his instrument upon the other object of arithmetical instruction, also. What is wanted is not less logic, but more practice; not less arithmetic, but more and *better teaching*. When a teacher of arithmetic gives her pupils such problems as employ a college president and professor of mathematics an entire evening to get the answer expected of the pupils, it is clear that the teacher needs reforming. If this happens in such an established study as arithmetic, how would such teachers succeed in the comparatively new fields of natural science? When the tragedy of Hamlet is performed in a bungling way, does the unfortunate and disappointed play-goer seek to cure bad acting by leaving out the part of Hamlet?

T. B. Pray.

WHITEWATER, WIS.

BOSTON RULES AND WISCONSIN CONDITIONS.

The orders of the school board of Boston concerning the study of arithmetic in the schools of that city do not invite special comment or criticism from teachers in Wisconsin. They are designed to be operative in Boston alone. They do not concern us, unless it should appear that the conditions affecting the study of arithmetic in Wisconsin are similar to the conditions existing in Boston. To what extent this is true I do not know. I shall, therefore refrain from expressing any opinion as to the wisdom of the board in adopting the order. I may venture a few remarks upon the applicability of the orders to the schools of Wisconsin.

Gen. Walker's exposition and defense of the orders are much more provocative of criticism and dissent than the orders themselves. His sweeping statements and generalizations, are calculated not exclusively for the latitude of Boston, but for other habitable parts of the earth as well. He writes with great vigor. He pleases, surprises, provokes, confuses, by turns; though the final turn in the mind of the ordinary reader is, I imagine, one of confusion.

Those opposed to all home tasks for children will heartily approve of the first order. Those in favor of a reasonable amount of home work will not see the wisdom of it so readily. Certainly, Gen. Walker's labored defense of it is far-fetched and fanciful. It proves too much. The conditions for the home study of the other branches differ just as widely in different homes as do the conditions for the home study of arithmetic. If in any of the other branches, home work should be required "of a degree of difficulty and complexity altogether unsuited to the age and mental development" of the children, their parents would doubtless find them "hot, tired, overwrought and quivering with distress." Gen. Walker surely does not mean to say that all home tasks in arithmetic must necessarily be of that nature;—he writes with too much good sense about "plain ciphering" to say that. Neither does he advocate the prohibition of all home tasks. His impassioned denunciations miss the mark entirely. They are aimed at all home tasks in arithmetic. They should have been aimed at home tasks in arithmetic *too difficult for the head master of a Boston High School, or the head of one of the Colleges of Oxford University.* In a crusade against such gigantic stupidity and wickedness as that Gen. Walker would not lack ardent sympathy and willing support. Most young people like arithmetic. They are inclined to give it too absorbing attention. The proper remedy is a wise direction and control of their home studies; not a total prohibition of them.

In regard to the second order, I should prefer, for our schools, to retain a little practice in using the compound interest table, and some plain easy work in domestic exchange. To make room for these I am willing to drop out, in addition to the subjects mentioned in the order, longitude and time, duodecimals, alligation, insurance, the progressions, and perhaps some other unsuitable work and rubbish still unhappily retained in our text-books. This whole "lot" should "go," in order that the things that remain may be strengthened. One of the greatest helps

of the Manual on the Course of Study is in the fact that most of this whole lot of subjects are omitted. On the authority of the Manual, the country teacher may now leave them out without raising the suspicion in the minds of his pupils that he is unable to teach them. Without doubt, the fear of arousing this suspicion has compelled many a teacher to retain these subjects, whose better judgment would otherwise have directed him to omit them.

The second order is a wise one. Gen. Walker defends it with force and fairness. It may be noted, however, that the first object sought in teaching arithmetic—skill in ciphering—may be attained in the Primary and the Middle Form. The second object—general mental training,—should be the principal end sought in the Upper Form. "Facility and accuracy in numerical computations" should come first. This can not be too much emphasized. Upon that as a foundation, let us get out of arithmetic its disciplinary value also. With that end in view it need not distress us, if the bright lad does take ten or fifteen minutes to make the statement, and only as many seconds to perform the operations. The discipline comes from the making of the statement. I doubt if there is any discipline of the same kind in the natural sciences, for which this discipline should be made to give way.

The third order puzzles me. It seems to me the pupil should have acquired a "reasonable degree of facility in plain, ordinary ciphering" before taking up commission, discount and proportion, and that these subjects are very valuable for purposes of mental training.

The fourth order puzzles me still more. That, too, it seems, is for the purpose of interesting and aiding the child in the "performance of the arithmetical operations." He is to be lightly loaded with easy practical problems and illustrative examples. Then the fifth order recites that in oral work at least, there shall be no racing, but the dictation should be of moderate rapidity. That is, the fourth order prohibits weight and the fifth order speed; and so both elements of momemtum are limited. These orders would not be wise if designed for the schools of Wisconsin.

A careful reading of the orders discloses in them no arithmetical work for purposes of mental training. The sole purpose is the acquisition of skill in cyphering. Of course, it must be conceded that the acquisition of this expertness in arithmetical computations involves not a little mental quickening. It comes in incidentally, however, and in the orders is

made strictly subordinate; it is never to be sought for its own sake. Now, so far as plain adding, subtracting, multiplying, dividing and reducing are concerned, the strictly practical bread-and-butter part of arithmetical work, the child may be trained to a very high degree of rapidity and accuracy in less time than the sixth and final order allows. The net result—skill in doing these things—is not overestimated even by Gen. Walker, and he puts the case strongly. This end attained, there is still time, even in schools where some attention is paid to the natural sciences, for the use of arithmetic as an instrument of mental training. The net results of such training are sufficiently valuable to deter us from lightly dethroning arithmetic from the high place assigned to it by almost universal consent. Among these results may be named, the power of continuous attention; the ability to grasp conditions firmly, and to hold them in the mind; the ability to pass patiently, step by step, with positive certainty, from premises to conclusion, to feel the irresistible force of a demonstration.

One more thought. I wish to stand up to be counted among those in favor of having the child do things of "considerable difficulty." There is a natural charm about doing things difficult. The desire for the mastery of such things is firmly implanted in our natures. It is put there for a wise purpose; it should be wisely utilized. "The fairly intelligent and attentive child" will soon master his easy problems. If I read Gen. Walker's dumb-bell illustration aright his philosophy is to keep the child interested in these easy exercises by *giving him more of them.* This is not wisdom. If there is any human nature in the Boston boy this treatment will not satisfy him. Nothing will satisfy him but more difficult problems—so difficult that their solution shall require the best work there is in him. As is often the case, the boy is right, the philosopher wrong. I am quite as much opposed to "fatigue, confusion and the sense of strain" as Gen. Walker is. What I wish to argue for, is work on a level with the child's capacity; not above it, nor beneath it,—work that requires effort and repays it with the stimulating pleasure of the sense of achievement.

Finally, in studying these orders, and Gen. Walker's notable paper, we must constantly bear in mind that the Boston child finishes his work in arithmetic at fourteen or fifteen years of age. The Wisconsin child, except in our larger cites, is generally much older and more mature. It follows that much more can be done with arithmetic, as a means of

mental training, in Wisconsin than in Boston. It is likely, also, that our habits of thought in reference to the teaching of arithmetic, determined as they are by Wisconsin conditions, may unfit us to judge fairly rules and orders made to fit conditions existing in Boston.

A. J. Hutton.

PLATTEVILLE, April 11, 1888.

THE MECHANICAL MAKE UP OF BOOKS.

In view of the fact that purchases of school libraries will soon be made throughout the state, in compliance with the provisions of the library law, a few words in regard to what books to buy are not inappropriate at this time. Much has been said about the literature that is to be admitted into our schools, and both in last year's list and in the list for 1888, about to be issued by the state superintendent, care has been taken to select only the best. Time and thought have also been given to the editions recommended, the effort having been to choose books having the most durable bindings and the clearest print. The necessity for care in such matters is evident in view of the large numbers of editions of the same books offered by various publishing houses, of the misrepresentations of so many agents, of the tempting advertisements of book firms, and of price-lists that give no clue to the quality of the editions furnished.

No false notions of economy should lead purchasers of books for children to select any that, in point of printing, are injurious to the eyes. This is a matter of vital importance. In late years, the increase of myopia, or short-sightedness, in children has become so alarming that the subject has attracted the attention of scientists in every civilized country. "Not to refer to the statistics of Germany," says Dr. Andrews, a well known authority, "the facts given by Loring, Derby, Risley, and Smith, in our own country, show that eye defects are too common among our school-children. Drs. Loring and Derby, in examining 2,265 children in New York City between the ages of six and twenty-one, found, among the youngest, myopia in 3.5 per centum, and among those of older years 26.78 per centum. Dr. Risley, of Philadelphia, in an examination of 5000 eyes, confirms the view as to the frequency of myopia, although also specifying other errors of refraction not included with these. In 400 recent examinations by Dr. Smith, of Chicago, for the board of education, four in every ten were found to

have more or less myopia. Professor Erisman says he never knew myopia to begin after the fifteenth or sixteeth year. It generally occurs between six and sixteen years of age, and especially between six and twelve years." Dr. Andrews, in citing the causes for this alarming state of things, gives prominence to the injury done by the reading of books printed in the wrong type. No type smaller than what printers call "pica" should be employ in making books for children. Care should also be taken to see that no imperfect or battered type has been used, in which case letters will appear broken and irregular. Publishers frequently use worn and defective stereotype or electrotype plates for their cheap books. Thin, poor paper will prevent clear impressions from being made, and will allow the printing on one side of a page to show on the other side, producing indistinctness that is highly injurious to the eyes. Inferior ink will also result in blurred and otherwise defective impressions of the type. It does not take a trained critic to see these things; any observer may note them if he will, and in view of the importance of guarding the eye sight, the purchaser of books for children must needs take cognizance of them. Better no books than no eyes.

In selecting illustrated books, care should be taken to see that the pictures, like the printed matter, are clear and distinct. More than this, they should be true representations of whatever objects they depict, and in subjects should be appropriate to the child's age and attainments. Cheap books abound in illustrations that are mere caricatures, and will debase the child's taste, besides often giving him wrong impressions. Some writer has recorded the fact that for years his ideas of the ancient Greeks were drawn from illustrations of the Iliad where the heroes of that poem were represented in the costumes of the eighteenth century. Even years of study and mature judgment could not banish the ludrcious impressions thus made in childhood. Many a child's dreams have been haunted by the terror-inspiring wood-cuts of an old edition of Fox's Book of Martyrs, or some similar book. Instances are not rare where young people have been repelled from some really worthy book by a wretchedly executed portrait of the author that disgraced the volume. No child would be drawn to Washington Irving by the distorted representations of his face that may often be seen, while a true picture of his kindly, genial countenance cannot fail to win readers for his charming pages. We have all seen many a picture that was created to "point a moral or adorn a tale" hopelessly fail in its mission.

True economy ought to lead every purchaser to take care that the books he buys are well bound. Of good binding the three requisites are solidity, elasticity and elegance. Much of the material used in manufacturing the backs of cheap books is pasteboard made of straw, instead of the hard, smooth board made of rope. Cheap covers will break easily, will curve out of shape when exposed to moisture, and will bend at the corners and edges. Much of the durability of binding depends on the way the leaves are sewed together and how the strips of canvas are pasted or glued over the sewing. The covers are chiefly attached by pasting them to the canvas of the back and the blank paper on each side. If the materials used in doing all this work are of inferior quality, there is small chance for the survival of the binding after it has been in the hands of children a few days. Often merely opening a book cracks the glue, loosens the cover, and displaces some of the leaves from the threads that should hold them together. To test the binding of a book, open it till it lies flat, and turn the leaves, examining them at the back to see whether they are properly secured. A well bound book opens easily, lies flat without strain; its hinges are finely fastened on the back and the edges and sides may lay claim to mathematical precision.

It is well to remember in this connection, that publishing houses best known for the finest and most durable editions are also noted for the good taste displayed in the covers of all their books. The vulgar, flaring designs on book covers are a sure indication of poor paper, poor type, poor ink used in the manufacture of their pages. Such as these should, on all accounts, be forever excluded from school libraries. It is always wisest to patronize only the leading houses, and to beware of specious advertisements or lists of books not giving the publisher's names as well as the prices. In cases of doubt, it is well to insist on an examination of the books before purchasing. *

HOW WE KEEP OUR LIBRARY.

An act to appropriate a portion of the common school fund for the purchase of a school library, (Chapter 426, Laws of '87) sounds through the lines of instructive reading the bugle note of advance upon the citadel of public ignorance.

The time is unquestionably propitious for a vigorous move in the direction of libraries in connection with country, village and city schools.

This article is not written, however, for the purpose of extolling the wisdom of the originators of the act, nor for the purpose of urging upon teachers and school officers the desirability of hearty co-operation in bringing about the establishment of the libraries and in arousing a strong public sentiment in their favor.

My purpose is merely to offer a few suggestions concerning the manipulation of libraries already established in schools consisting of several departments. Those who have tried the experiment know that it is no easy matter to keep track of two or three hundred books used by as many pupils.

I can best express my own ideas concerning the proper management of such a library by briefly stating how the Baraboo School Library is operated.

The library consists of something over 400 volumes representing standard publications in various departments of literature, as history, children's stories, biography, fiction, travels, exploration, science, belles-lettres, etc. No money has ever been paid from the public treasury for the purchase of books, but the fee of the librarian is paid from that source. The books have been bought with money secured by entertainments given by pupils, the last one having netted $146.00.

The library is open to all pupils above the third grade. Pupils are allowed to draw books once each week, the library being open to half the pupils on Tuesday and the other half on Wednesday immediately after the close of the afternoon session.

There are two essentials in the successful registration of library books. 1st. A registration that can be quickly and easily made, and 2d. One by which the possession of the book may be easily determined.

The system of registration used is my own device, though no doubt similar to that used by others. The books in the library are numbered and so are the pupils who use the library, the pupils' numbers being changed as seldom as possible. The books for registration are three in number, two indexes such as are used by bookkeepers for index to ledger, and one large record. One index contains a catalogue of the titles of books alphabetically arranged, each title being preceded by the library number and followed by the author's name; also an alphabetically arranged list of authors accompanied by the titles of their works and library number of each. In the back of this index on separate sheets that are fastened in, is an arrangement of titles by number from one up-

ward. The other index contains an alphabetically arranged list of the names of pupils who use the library, with the number of each. This is for reference in case the pupil forgets his number. The record is a large and substantially bound volume of 500 pages, manufactured and printed for the library at a cost of ten dollars. Each page is double numbered, thus giving room for the names of two pupils on each page. That is, the upper half of a page is printed as follows:

NAME.			NUMBER 320.
No.	Taken.	Fine.	Repetition of preceding across the page.

The lower half of the page the same except that the number 321 occurs. The numbers are printed in the record the same as any ledger paging. Name of pupil number 320 is written in the blank space after the word Name. This pupil presents himself to librarian with the books to be registered and gives his number. The librarian is able by the number to find the page without a moment's delay, and if there is any doubt about the pupil's number his name is asked. The juxtaposition of name and number prevents error and saves time. The pupil then holds the book open to show the number written in every book in connection with the rules stamped therein by a rubber stamp. Under the word "number" the number of the book is entered; under the word "taken," if the date is March 20th, 3–20 is written. Registration can be made with perfect ease at the rate of four a minute. When the book is returned a line is drawn through the entry, and if kept over time the amount of the fine is entered and the pupil is excluded from the use of the library until the fine is paid. Under each name is room for the registration of over sixty books, and as the record contains 1000 numbers it will last from three to five years. Teachers as well as pupils use the library, but they register in a separate book, attend to the registration themselves and have access to the library at all times. The plan herein indicated is working satisfactorily to all concerned. Should this article furnish any help to those having libraries in charge in the direction of ease and accuracy in their management, the purpose of the writer will be fully accomplished.

J. W. Brier.

BARABOO, WIS.

THEORY AND PRACTICE.

ARITHMETIC IN THE BOSTON SCHOOLS.

[Address before the Massachusetts Teachers' Association, by Gen. Francis A. Walker, President of the Massachusetts Institute of Technology.]

Near the close of the last school year, the School Board of Boston passed the following orders concerning the study of arithmetic:

1. Home lessons in arithmetic should be given out only in exceptional cases.

2. The mensuration of the trapezoid and of the trapezium, and of the prism, pyramid, cone and sphere; compound interest, cube root and its applications; equation of payments, exchange, similar surfaces, metric system, compound proportion, and compound partnership,—should not be included in the required course.

3. All exercises in fractions, commission, discount, and proportion should be confined to small numbers, and to simple subjects and processes, the main purpose throughout being to secure thoroughness, accuracy and a reasonable degree of facility in plain, ordinary cyphering.

4. In "practical problems," and in examples illustrative of arithmetical principles, all exercises are to be avoided in which a fairly intelligent and attentive child of the age concerned would find any considerable difficulty in making the statement which is preliminary to the performance of the proper arithmetical operations. When arithmetical work is put into the form of practical or illustrative problems, it must be for the purpose of interesting and aiding the child in the performance of the arithmetical operations, and with a view to their common utility.

5. In oral arithmetic no racing should be permitted; but the dictation should be of moderate rapidity.

6. The average time devoted to arithmetic throughout the primary and grammar school course should be three and a half hours a week; and in the third primary grade, not more than two hours, and in the first and second primary grades, not more than three and a half hours each per week.

It is the purpose of the present paper to state the considerations, as I conceive them, which moved and guided the School Board in taking the action recited.

[The portion relating to home lessons in arithmetic is here omitted.]

Regarding the remaining five orders, considered as a body, it may be

said that the committee in framing them were actuated by the belief, formed partly through their individual experience and observation of public school instruction, and partly as a result of an investigation conducted by the committee in pursuance of an order of the School Board under date of April 27, 1886, that both loss of time and misdirection of effort, with even some positively injurious consequences, were involved in the teaching of arithmetic, as carried on in some of the Boston schools. And here let me say, to prevent misapprehension, that the committee at no time intended to reflect on the schools of our own city as compared with those of neighboring cities and towns. Personally, I believe that the teaching of arithmetic has been more humane and rational, of late years, in the schools of Boston, than in those of most New England towns and cities.

What, then, are the faults complained of?

First — That the amount of time devoted to this study is in excess of what can fairly be alloted to it, in the face of the demands of other and equally important branches of study.

Secondly — That the study of arithmetic is very largely pursued by methods, supposed to conduce to general mental training, which, in a great degree, sacrifice that facility and accuracy in numerical computations so essential in the after-life of the pupil, whether as a student in the higher schools or as a bread-winner.

Thirdly — That, as arithmetic is taught in many, perhaps in most schools, the possible advantages of this branch of study, even as a means of general mental training, and of the development of the reasoning powers, are, whether by fault of the text-book or of the individual teacher, or of the standards of examination, largely sacrificed through making the exercises of undue difficulty and complexity, the exercises prescribed often reaching a degree of difficulty and complexity which not only destroys their disciplinary value but becomes a means of positive injury.

The three propositions just recited, I will, with your indulgence, take up in consecutive order:

First — The estimation in which arithmetic is held, alike by the general public, by school boards and committees whose duty it is to lay out and arrange the course of study, and by the teachers who, enjoying more or less freedom of action, are to carry the prescribed schemes of instruction into effect, is very largely a traditional one. The recogni-

tion of changed circumstances and conditions, the persistent intrusion of new demands and requirements arising out of those changes in condition and circumstance, have, indeed, caused both the official and the popular estimation of arithmetic to be more or less fully revised and modified. Yet, so strong is the force of tradition, especially in the school system, where the pupils of one generation become the teachers of the next, that we cannot too carefully inquire whether the reasons which at one time underlaid this or that part of our scheme of instruction, have not disappeared.

The object sought in teaching arithmetic to the children of our public schools are two. First, foremost, and absolutely indispensable, is the acquisition of the ability to perform simple numerical operations with reasonable rapidity and with almost infallible accuracy. Greatly as children differ on the side of their minds concerned in these operations, there should be yet no difficulty in securing the above result in the case of all but a very few persons who may, perhaps, for school purposes, be regarded as hopelessly indisposed toward numbers. Probably every one of these last cases would in time yield to judicious individual treatment; but as children have to be dealt with in large classes, we must accept a small proportion of failures, in this respect, as inevitable.

What is the standard which should be set up for attainment in arithmetic, having reference only to the practical value of that attainment in after life? I answer, 1st, the ability to count infallibly objects occurring irregularly, up to two or three hundred, say, for example, packages of tickets or checks, dots on a piece of paper, persons in a small audience room, etc.; 2d, the ability to add, without the possibility of a mistake, columns of figures such as would occur in an ordinary savings bank deposit book or housekeeper's pass-book; 3d, the ability to add two numbers, each below one hundred, or to subtract the less from the greater, rapidly and without recourse to pen or pencil; 4th, the ability to multiply, on the slate or blackboard, one number of moderate length by a small multiplier or to divide it by a small divisor; 5th, the ability to compute simple interest, on moderate sums, at even rates per cent., for round periods; 6th, the ability to work simple examples in "reduction," involving the use of the American table of weights, measures and money.

If every boy and girl, on leaving the grammar school, at say fourteen or fifteen, had reached this stage of attainment, the public schools would have fairly done their duty by them, so far as the practical uses

of arithmetic are concerned. This is all I would ask for my own son or daughter. This is as much as nineteen boys out of twenty, ninety-nine girls out of a hundred, who do not go beyond the grammar schools have occasion to put frequently to use in the work of their lives. If the twentieth boy is to be a clerk or accountant, or to take up business for himself, he will very readily, from this basis, acquire the needed facility in casting up the columns of a ledger, or in working heavier sums in multiplication or division.

This is the first object to be sought through the study of arithmetic; and its importance has neither increased or diminished since the days of our fathers.

The second object which is properly sought by means of the studies and exercises in question is general mental training.

The importance of this function of arithmetic has greatly declined during the present generation by reason of the introduction of new studies and exercises, some of which are equally well adapted if, indeed, not better adapted, to perform the required work. Thirty and forty years ago, the studies in our public schools were few and simple. Reading, writing and arithmetic, a little grammar, some crude declamation, with physical geography, made up, substantially, the course of study. Of the physical geography of to-day, extending even to what were once the mysteries of meterology, taking into account the influence of currents of air and water upon climate, and of climate upon the productions of the soil and upon the occupations of man there was then not a trace. History and civil government were unknown studies in the grammar schools of those days. Physiology was just about to enter the schools in spite of the protest of an eminent citizen of Massachusetts, on the ground that it was one of a group of sciences none of which should be brought into the schools unless all were to be. Music and drawing were to wait still longer for recognition by school authorities. The elementary mechanics and physics so successfully taught in many schools, were then not dreamed of as possible subjects of study. A district schoolmaster of the past generation would as soon have thought of teaching the language of Archimedes as of explaining the principle of the lever and fulcrum.

The introduction of many new subjects of study has greatly reduced the importance of arithmetic as a means of general training. In the generation just passed, it was necessarily looked to for very much of the

development and discipline of the pupil. To-day a half score of separate sciences or important subjects of study offer themselves to do the same, work in one or more of which are unmistabably found all the educational virtues which belong to arithmetic, together with others which arithmetic does not possess. The strongest claim made in behalf of mathematical study has been its cultivation of the power of continuous attention; yet the degree of attention which can be commanded, on the part of children dragged reluctantly through compound fractions or cube root, is far inferior to that given by a group of eager boys and girls following an enlightened teacher in some branch of natural history. Generally speaking, it may be said of the new subjects, that, while they train the powers of reasoning not less efficiently than does arithmetic, they also bring into play the powers of perception and observation which in all branches of mathematics are left absolutely unused.

I would not wish to be understood to assert that arithmetic has ceased to have any educational value at all, beyond its practical utility in the public school of to-day. I entertain no doubt that, in the primary school, and even the lower classes of the grammar school, number-lessons, in application to concrete objects, may be helpful in awakening interest, arousing thought and bringing the mind into healthful exercise, but I do seriously question whether for every hour spent by a boy of thirteen or fourteen years of age in the study of arithmetic, beyond what is necessary to secure the degree of accuracy and facility indicated at an earlier stage of the discussion, an hour spent in some other kind of study might not be substituted to his very great advantage. However this may be, it seems to me clear that arithmetic, by virtue of its having been earlier on the ground, and its enjoying the prestige and authority derived from the past, continues to-day to occupy space which is urgently needed for the proper extension of some of the new subjects, which, in spite of the recognition of their practical utility and educational value, have scarcely been able to secure a foothold, in fact, although forming a feature of the grammar school curriculum, on paper.

The second of the main propositions laid down was that the study of arithmetic is very largely pursued by methods supposed to conduce to general mental training which, in great degree, sacrifice that facility and accuracy in numerical computations, so essential in the after-life of the pupil, whether as a student in the higher schools or as a bread-winner.

That the results of the study of arithmetic in the grammar schools are unsatisfactory, so far as the ability of the pupils to perform numerical work correctly and with reasonable dispatch, whether in subsequent studies or in actual business operations, seems to me established by abundant testimony, both of merchants, manufacturers and bankers, receiving graduates from our grammar schools, and of teachers in higher institutions of learning. The average pupil falls short of the very moderate degree of attainment which I indicated as fairly to be expected from all but a very few highly exceptional scholars, and that too with very much less than the amount of time actually devoted to arithmetic. The head-masters of both of the great high schools of Boston have assured me that they find grave deficiencies on the part of large numbers of pupils coming from the grammar schools, in this matter of accuracy in simple numerical operations; and I have received similar information from the head-masters of high schools in other cities. In the institution with which I am personally connected, instructors in algebra, for example, find that many pupils who are familiar with difficult theorems and are masters of complicated formulæ, often vitiate their work by simple numerical mistakes, such as would have been impossible had they been properly trained in the earlier stages of their mathematical education. Prof. Safford, the eminent mathematician and astronomer of Williams college, in a recent treatise states that he finds in his own pupils a great want of skill in ordinary calculations and that inaccuracy in simple arithmetical work is very common. In the letter which I have to-day received, Prof. John E. Clark, the head of the mathematical department of the Sheffield Scientific School of Yale College, states very strongly the deficiencies of students entering that school, in the matter of simple numerical accuracy and facility.

Embarrassing as are such deficiencies in the case of students pursuing long courses of study, the results in the case of those students who leave the grammar school to begin to earn their own living are in a high degree disastrous. To repeat here language which I have used elsewhere: employers have literally no use for boys who make mistakes in numbers. Such a failing offsets the best training, otherwise, of mind and hand. In a store or shop or factory, or on a railroad, a lad who cannot set down figures and add them rightly, every time, must take and keep an inferior position. If any greater wrong, short of permanent injury to health, can be done a child than to send him out into

the world to earn his living without the ability to conduct numerical operations accurately, it is difficult to see in what that injury would consist.

The defect which has been thus severely commented on is not due to a lack of time devoted to exercises under the name of arithmetic, but to the fact that so little properly numerical work is involved in these exercises. Scarcely has the pupil learned the four simple rules, when he is given numerous technical applications requiring the use of extended tables of weights, measures and moneys, and so-called practical or illustrative problems which necessitate deep and long puzzling over the relations and terms involved. Even in the early stages of this process, seldom is so much as one half of the time given to proper numerical work. Often that proportion sinks to a third, or a quarter, or even a smallar share. Sometimes the amount of such work becomes inconsiderable. Who of us has not seen a bright lad spend ten or fifteen minutes over a practical problem, when the mere addition, multiplication, subtraction and division involved would not have occupied as many seconds?

It was partly to increase the amount of actual numerical work to be done in an hour devoted to so-called arithmetic; in part, also, to reduce the load which our children are required to carry all the time on their minds, ready to be at any instant unpacked and put to use, that the School Board of Boston have thrown overboard the large and miscellaneous "lot" of subjects mentioned in their second order. It was with reference in part to the consideration just indicated, and, in part, to that consideration which remains now to be stated, that they passed the orders numbered three and four.

The third and last of the main considerations which actuated the school board, dealing with this subject, has been stated as follows:—That, as arithmetic is now taught in many, perhaps in most, schools, the possible advantages of this branch of study as a means of general mental training, are, whether by fault of the text-book or of the individual teacher or of the standards adopted for examination, largely sacrificed, through making the exercises of undue difficulty and complexity, the exercises prescribed often reaching a degree of difficulty and complexity which not only completely destroys their disciplinary value, but becomes a means of positive injury.

It was, in the belief just stated, that the Board prescribed that all

exercises in fractions, discount, commission and proportion should be confined to small numbers, and to simple subjects and processes, and, again, that in so-called practical and illustrative problems, all exercises in which a fairly intelligent and attentive child of the age concerned would find any considerable difficulty in making the "statement" which is preliminary to the performance of the properly arithmetical operation, shall be deemed objectionable.

This action of the school committee was at the time opposed, and is still by some criticised, on two different grounds. One, that the exercises given to the children in the Boston schools, whether as examples under the rules mentioned, or as practical and illustrative problems, have, in fact, uniformly been simple and easy; the other, that, in sound educational theory, the exercises given to young pupils ought to be difficult, complicated, perplexing and distressing, in order that the child's mind and spirit may undergo a due preparation for the difficult duties and hard problems of life, one enthusiastic writer of this school going so far as to declare that it is essential to good education that the sums set for the pupil should be not only often difficult but sometimes actually impossible of solution by him, in his then stage of mental development.

To the assertion, so constantly made, as to the simple and easy character of the exercises prescribed for our children, it may be replied, that if the facts are as stated, the rules imposed can do no harm; but that the personal testimony of members of the Board abundantly establishes the fact that absurdly complicated exercises in fractions, cube root, etc., and practical problems amounting to the severest logical puzzles, were given out, in some of the schools of Boston, down to the very date of the order recited.

As to the educational theory which was, both in debate and in outside criticism, brought to bear against the proposed rules, I may say it is pleasure to encounter error with so little of disguise. If its advocates are in the right, the action which the school-committee have taken is, of course, all wrong; but I, for one, do not hesitate to assert that this theory, in its milder from, is inconsistent with the best and ripest result of modern physiology and psychology; while I denounce that theory in its extreme shape, as a relic of barbarism, closely akin to some of the most savage superstitions of primitive mankind. The notion, that exercises, either mental or physical, prescribed for young children, should be often up to the full limit of their powers, and should at times exceed those pow-

ers, is distinctly false. The true gymnastic for the growing child is through exercises easy and pleasant, which lead insensibly up to ever higher plains of attainment, as the faculties are expanded and strengthened, according to their own law of growth, through gentle and agreeable exercise. Wherever fatigue, confusion and the sense of strain begin, there the virtue of the exercise ceases, whether for promoting the growth of the powers or for the training and disciplining of the powers as they exist. Loss and waste — it may be much, it may be little — begin at this point, and go forward, from this point, at a constantly accelerating ratio.

In college, thirty years ago, those of us who were given to athleticism were accustomed to use heavy dumb-bells, the heavier, we thought, the better. Twenty-four and thirty-two pounders, the famous "fifty-sixes," and even eighty pound bells were much in favor with young fellows who desired to become strong. To-day, a prize fighter, preparing to contest the championship of the world, uses, habitually, very light dumb-bells, just heavy enough to give a purpose to his blow and to be distinctly felt at the end of the stroke. He makes with the light bell, ten strokes to one he would make with the heavy bell, and gets twice as much good from the exercise. If this be the part of wisdom for the grown giant, overflowing with the exuberance of his strength, much more is such a course desirable in the case of young, tender children, yet in the gristle, the frame and brain still plastic and yielding, with the possibilities of manhood and womanhood but dimly intimated. Whether for the promotion of future growth, or for the training of the powers as they are, or for the acquisition of the inestimable art of rapid and accurate computation, school exercises in arithmetic should, in the opinion of the Boston Board, be easy and simple, with the resulting advantage of becoming more frequent than is possible, within any reasonable limits of time, in the case of the highly complicated and difficult sums and problems with which the traditional gymnastic deals.

The greatest enemy, however, to true arithmetical work, is found in so-called practical or illustrative problems, which are freely given to our pupils, of a degree of difficulty and complexity altogether unsuited to their age and mental development. It is bad enough to give boys and girls of twelve and fourteen years of age numerical operations far exceeding in difficulty those which any bank cashier has to perform from one year's end to another; to require them to extract the cube root of

three-sevenths; to pile one irregular and jagged fraction on top of another, and then ask them to divide or multiply this by an arithmetical monstrosity as hideous and impossible as itself. But, at least, a pupil so engaged is actually dealing all the time with numbers. It is through so-called practical and illustrative problems, that bad teaching in arithmetic does its worst. The loss of time may be no greater; but the resulting confusion and sense of strain are apt to be more bewildering and distracting to children of the ages concerned. Every teacher and every parent whose children have been given lessons in home arithmetic, knows too well the kind of problems to which allusion is made. I am, myself, no bad mathematician, and all the reasoning powers with which nature endowed me have long been as fully developed as they are ever likely to be; but I have, not infrequently, been puzzled, and at times foiled, by the subtle logical difficulty running through one of these problems, given to my own children. The head master of one of our Boston High Schools confessed to me that he had sometimes been unable to unravel one of these tangled skeins, in trying to help his own daughter through her evening's work. During this summer, Dr. Fairbairn, the distinguished head of one of the colleges of Oxford, England, told me that not only had he himself encountered a similar difficulty, in the case of his own children, but that, on one occasion, having, as his guest, one of the first mathematicians of England, the two together had been completely puzzled by one of these arithmetical conundrums.

The vice of such problems is of a double nature. First, there is the fact of undue complexity and difficulty. Secondly, there is the fact that the special faculty concerned does not normally develop in the child's mind until a later period of life than that generally concerned in these operations. In this connection I refer to the letters from President Porter and Professors Howison, James, and Stanley Hall, which were made a part of my address to the Boston School Board on the 12th of April last. For one, I believe it to be altogether undesirable to attempt to pry this faculty up from the mass of mind, in which by nature's wise provision, it still lies embedded and dormant, and bring it prematurely into consciousness and exercise.

Whether one agrees with the reasons which have been inadequately presented, or not, such is, at any rate, the law of the schools of Boston to-day, under adequate authority, and those teachers who still believe that children should be harrassed and distressed in education, for their

souls' and minds' good; that the exercises of the growing boy or girl should be carried to the point of strain; and that sometimes the pupil should even be set examples he cannot perform, will perforce have to resort to some other instrument of torture than arithmetic.

OFFICIAL DEPARTMENT.

PROGRAMME FOR THE STATE EXAMINATIONS.

At the examination of teachers for state certificates, to be held in Madison, commencing Monday, July 30, 1888, by order of the State Superintendent, the following programme will be observed:

Monday P. M. — Arithmetic — History of United States.
Tuesday A. M. — Physiology — Grammar.
Tuesday P. M. — Algebra — Art of Teaching.
Wednesday A. M. — Geometry. Geography.
Wednesday P. M. — English Literature (1). Physics.
Thursday A. M. — Botany. Mental Science. Zoology.
Thursday P. M. — Reading. Constitution. General History.
Friday A. M. — English Literature (2). Geology.
Friday P. M. — Political Economy. Science of Teaching.

Penmanship and Orthography will be judged from the papers in other branches submitted to the board. Orthoepy will be tested in connection with Reading, in which the examination will be oral. Descriptive and physical geography will be tested in one paper.

Candidates are expected to note carefully the times set for the different branches, and to present themselves at the time appointed for the branches in which they wish to be examined.

J. W. STEARNS,
J. Q. EMERY,
T. B. PRAY.

EDITORIAL.

THE manner in which summer schools are springing up in connection with colleges and universities seems to be an additional evidence of the effort on the part of these institutions to bring themselves into closer relations with the people, and to extend their teaching work. Perhaps the most noteworthy movement of this sort is at Harvard, the oldest American University, where six or seven different summer schools are advertised. In Wisconsin the movement for such a school at Madison inaugurated last year proved eminently successful.

A very good number of teachers was brought together for four months in the summer, teachers from some of our most progressive schools, and many of them teachers having several years' experience in the calling; they met every forenoon for instruction in the different branches offered, and at the close of the school were unanimous in the opinion that the session had been a very profitable one, and that the school should be continued another year. The Wisconsin Teachers' Association created a committee charged with the duty of providing if possible for the organization of such a school this summer. The efforts of the committee have been successful. The Board of Regents of the State University and the Board of Regents of Normal Schools have each made an appropriation for the school, which, therefore, is more fully assured than was the experiment of last year. The new Science Hall at the University affords far greater facilities for its work than the University could offer a year ago. Arrangements for the instruction are not yet fully completed, but there will be offered courses in psychology, pedagogy, chemistry, physiology, zoology, botany, geography, geology and physics, and the faculty will be made up in large part as last year, with, it is expected, some important additions. The school will open on Tuesday, July 10, and continue is session four weeks. The aim will be in all departments to make the instruction as helpful and inspiring to the teachers as possible. This is a rare opportunity offered to the teachers of the state to obtain superior advantages in the study of science, and gain an impetus during the summer months which will make the whole year more profitable to them in school and in study. In what better way than this can the vacation be spent? Circulars containing full details will be issued as soon as possible.

How fertile an old field may become when the ground is well stirred is sufficiently illustrated by the discussion of the teaching of arithmetic, to which we devote considerable space in this number of the JOURNAL. A careful reading of the papers will convince any one that there was need of a thorough stirring in this field. Gen. Walker's paper has produced a decided effect in many quarters. It has, for instance, developed a widespread conviction that there is much unprofitable work in the present treatment of the branch. In the effort to cut this out we are, of course, in danger of going to the other extreme, but yet the effort must be made. And what more profitable question can be proposed to those who are daily occupied with teaching arithmetic than this: "What part of your work, judged by the most rational standards you can find, is really unprofitable to your pupils? And further, what part, if not wholly unprofitable, occupies time which might with better advantage be devoted to some other subject?" That is always a useful subject to think upon, and the papers we print give some very admirable suggestions to aid one in thinking upon it. They bring out, with a fair degree of clearness, what the main purposes of the teaching of arithmetic in the grades below the high school should be. They touch very little upon Gen. Walker's interesting contention that the importance of arithmetic as an instrument for mental training "has greatly declined during the present generation." His suggestions on this head carry our thoughts back to the old

school, with its meagre curriculum, its crude organization, its impotent methods, and that fallacious notion which we often see urged, that narrowness means strength. It may indeed mean strength through concentration, but it more often resulted in listlessness and inanition. Mr. Galton tells us that the scientific men to whom he wrote, asking details about their early training, "have very generally ascribed high merits to a varied education;" and that he concludes from their replies that they think the aim of education should be "to teach a few congenial and useful things very thoroughly, and to encourage curiosity concerning as wide a range of subjects as possible." Gen. Walker seems to say, teach arithmetic thoroughly, but do not let it interfere with the development of this wide-ranging curiosity. Is not the truth this: Arithmetic is certainly better taught to-day than ever before, as results show. Our improved methods have gained time, but the time given to arithmetic has not been diminished. We have given it to the expansion of topics in arithmetic, when we might better have turned it to developing other subjects made important by the rapidly changing conditions of our modern life. In schools where the improved methods have not penetrated no change would, therefore, be called for except an attempt to improve methods.

OVERWORK is certainly not common in our public schools, where a far greater number of pupils suffer from inanition and dawdling over lessons than from severe application. Mental activity is as natural and wholesome as physical activity, and where the conditions of it are what they ought to be — pure air, proper food, proper temperature and proper exercise, — there is as little danger that it will injure the pupil. Worry may injure him, and it is possible to so arrange the affairs of a school as to keep sensitive children in constant worry. This, however, is not what our investigators occupy themselves with, but rather with the hours of work. Now nothing is more deceitful than this. Dawdling work any number of hours will overstrain no one, and the harm resulting from it will be, besides bad habits, the loss of exercise and consequent decline of vigor. Who doubts that the greatest good would come of teaching young people to work while they work, and to give the rest of their time to hearty play? Many a boy makes the same discovery that Edward Everett Hale did, "that he can do twice as much in the same time at home as he ever does at school." It is underwork, working at a low tension, spending time unprofitably over tasks, learning to be incapable and inefficient, and learning for school and for examination instead of for life; — it is these things which intelligent teaching should most earnestly seek to remedy. What Dr. Austin Flint says in the April *Forum* seems to us the simple truth in this matter: "In my judgment it is an error to imagine that school children are often overworked. Assuming the average health and strength, it is rare to observe any impairment of physical or mental vigor directly attributable to close study, provided the children be well nourished and take proper exercise. This question of overwork is one which would inevitably be settled by those who prescribe courses of study for large numbers of pupils. It would very soon be apparent if the tasks were too severe for the

average children, and the remedy would be promptly applied." While thus unable to agree with the conclusions to which Superintendent Anderson's observations seem to be leading him, it appears to us but justice to him to say that the controversy which has arisen over his paper, "The Physical Side of Education," is likely to give a false impression of the nature of his reference to one of the normal schools. It is referred to as "a school which deservedly enjoys high rank and reputation," and "a type of modern institutions." It is as a type, not as an exception, that the school is cited, and the censure implied is, therefore, against the general tendencies of modern teaching and not against this school in particular. Of the merits of the controversy we have nothing to say; but regarding the general question of overwork, we venture to question whether it can be settled by ascertaining the number of hours spent by pupils over their tasks.

OUR DRAWER.

READING CIRCLE MATTERS.

WORK FOR THE EIGHTH MONTH.

ELEMENTARY. PAGE—Read from page 362 to the end of the book. HISTORY—Pages 255 to 310. PHYSIOLOGY—Finish the book.

ADVANCED I.—Quick—Finish the book to the appendix. FITCH—Lectures XII and XIII. POLITICS—To the appendix. HISTORY—Finish the book.

ADVANCED II.—SULLY—Chapters XVI, XVII and XVIII. BROOKE—Finish the book. SWINTON—Pages 455 to 544.

MILWAUKEE LETTER.

A Pointed Controversy—Overwork—Swearing in Teachers—Slojd in the Normal School—The Sixteenth Ward School—School Pupils and the Public Library.

A ripple of sensation was caused some weeks ago when public attention was directed to the essay on "The Physical Side of Education" contributed to the report of the State Board of Health by Supt. Anderson of this city. The portion of the essay alleging that cruel overwork of students is practiced in the State Normal School (the school being clearly pointed out, though not named) attracted the most notice, and was freely commented upon by the press; this called forth a rejoinder from Prof. Gillan of the Normal School which was the beginning of a pointed and somewhat peppery controversy running through three numbers of the *Sunday Sentinel.* The general opinion seems to be that the reputation of the Normal School has not been impaired by the attack which it sustained.

It is refreshing in these days when so much twaddle is written and spoken about over-pressure in schools to read the opinion of such a man as Dr. Flint. For those physicians who make the school a convenient scapegoat for all sins

against the laws of health, Dr. Flint's article in the April *Forum* would be wholesome reading. Doctors are very much like other people; their mode of thought is determined by environment. Col. Ingersoll, surrounded by crowds who enjoy his wit and eloquence, honestly believes the world has outgrown Christianity; but Harrison, Moody and others continually in the presence of revival enthusiasm as certainly believe the whole world is moving rapidly toward conversion. The physician, coming in contact chiefly with the sick, sees only a sick world; besides it is a pleasant way to flatter the fond mamma to tell her the school is injuring her darling, her child has such a "peculiar temperament," is developed so much in cerebral functions, has a brain of such fine texture, etc, that school work is dangerous. Thus he obviates the necessity of speaking unpleasant truths about the demands of social life, late hours, highly seasoned food, cigarettes, confectionery, unhygienic modes of dressing, reading exciting novels, etc. We may, perhaps, look lightly upon the foibles of the average physician; but educators should possess such an equipoise of temper and judgment as to avoid irrational extremes. Teachers who wish to read an eminently sensible presentation of the subject of school work as it affects the health of pupils should peruse the little pamphlet written by Miss Anna Brackett in reply to Dr. Clarke.—But I started to write a letter, not an essay.

It seems that a few weeks ago a member of the School Board vowed by the powers cf red tape that, since other public functionaries in the city's employ, such as bridge-tenders and policemen, are sworn into office, the schoolma'ams must swear too. A resolution was carried to the effect that public school teachers must take an oath faithfully to perform their duties, to support the constitution, etc.; and notices have been served that the regulation is to be enforced. Whether the originator of the movement thought the binding influence of an oath would make teachers more faithful, or that their loyalty needs bracing up, or that the constitution itself is tottering and requires the additional support which it is thus to receive, has not been publicly explained. At first, a few of the teachers thought some occult and sinister significance attached to the scheme, but now they generally regard it as a harmless freak of formalism which may soon lapse into "innocuous desuetude," or may become a permanent part of the school machine.

Since reading the article, "Slojd in Copenhagen Schools," in the April JOURNAL, your correspondent has taken a look at the work doing in the same line in the State Normal School in this city. Comfortable and commodious rooms in the basement are set apart for shop work. For a description in detail of the work done, let the reader turn to the article above referred to, (p. 176, April number.) In the paragraph there quoted from Hon. J. A. Johnson's paper descriptive of "slojd" hardly a word needs to be changed to make it apply to the training given in this department, except as to the age of students and the time occupied. The shop work is under the direct supervision of the regular teacher of science, Prof. Bevan, to whose able efforts and unflagging zeal the success of this department is chiefly due.

While over on the west side the writer spent a few hours in the Sixteenth District School, which is under the efficient supervision of Principal Burch. Merely a walk through the halls is enough to impress one with the fact that order, neatness and business methods characterize the management in this building; and a visit to the several rooms will prove confirmatory of the first impression. To mention all the good things seen from the excellent kindergarten work, under the direction of Miss Post, to the upper grade room, in charge of Miss Spence, where pupils were working on papers in bookkeeping which would be creditable in a business college, would take too much space. In Miss Moulton's class, work in number, language and calisthenics was seen that indicated teaching power approaching very near to an ideal standard. Calisthenic exercises are conducted in each room in the lower grades, but on the upper floor is a large, well lighted and ventilated room to which the sixth, seventh and eighth grades repair twice a day for exercises in marching and with clubs, dumb-bells and wands. These exercises are conducted by the regular teachers, and it is a pleasure to see the zest and good order with which the pupils engage in them. Pupils that produce exceptionally good work in any tangible form are rewarded and encouraged by having it marked with a "special merit" stamp and exhibited in a large glass case which stands in one of the hallways. Here may be seen specimens of clay modeling, penmanship, drawing, paper-folding, slate work, maps, examination papers, etc. This case, as well as a number of other mechanical appliances used in the school, is the handiwork of Principal Burch.

From a report of the superintendent recently submitted to the board, it appears there are school libraries maintained in six of the district schools. The books have been bought with funds raised by the pupils by means of entertainments, and the principals have selected the books. The opinion prevails among teachers and principals that the pupils who read most are the ones whose intellects are the keenest. (*Query*: Which is the cause and which the effect? In drawing conclusions at this point, let us look out for the logic, lest the old fallacy of *post hoc, propter hoc* slip in.) Supt. Anderson finds, on personal examination of all the books issued by the public library during one week to children under sixteen years old, that the taste of this class of readers is for imaginative literature—a result strictly in harmony with well established theories based upon the facts of psychological development; and Mr. Anderson wisely concludes that the distribution of wholsome books adapted to the child's needs and natural tastes can be more judiciously accomplished through the school library than through the public library. I. C.

A CORRESPONDENT CORRECTED.

MILWAUKEE, April 17, 1888.

EDITOR OF THE WISCONSIN JOURNAL OF EDUCATION: There is so much in your "Milwaukee Letter" in the April number of the JOURNAL that is either false or calculated to mislead in regard to the condition of affairs in this city,

that I beg you will allow me to present a few corrections. Passing over the allusion to my latest report as taking up but one subject, I would merely say that the report was called for by a special resolution of the board, and therefore could not, in propriety, discuss more than the one subject.

As regards the conclusions drawn by your correspondent, and the very liberal expression of his opinions, I think it is due to the facts to state, first of all, that the plan suggested for supplying vacancies occurring in this city is far different from that represented in your correspondent's letter. It is quite contrary to the plan now being considered to employ substitute teachers or teachers without certificates. Nothing of the kind was suggested in the report, and at present no one actively interested in education expects to employ qualified teachers at substitute's salaries. When your correspondent, moreover, suggests that teachers' agencies are recognized and legitimate instrumentalities in school matters, and ventures to advise the use of such agencies in connection with the settlement of the question of supplying teachers, there is no other answer to be made than that the school board of Milwaukee does not recognize teachers' agencies as legitimate instrumentalities in the conduct of school matters. The selection of teachers by any instrumentality taxing the appointee and putting fees into the hands of those securing the appointment, contains in it the elements of corruption. The question of certification would always prevent the employment of teachers through teachers' agencies; besides which, it is very likely that the school board, with its officers, is quite as competent to examine into the credentials of qualifications of corresponding applicants as the head of a teachers' agency, who expects to gain a neat living from the fees he receives from teachers securing positions on the basis of information supplied by his concern.

One more point in your correspondent's letter needs correction. He says: "As it now is, the young girl not even past the middle of her teens, fresh from the 8th grade or the first year of the high school, who, by repeated effort and importunate persistence, gets the required certificate, is at once employed at $40 per month, while the one who completes the high school course, and superadds the professional course in the normal school, gets no more." This statement borders on the libelous. It certainly misrepresents the facts. No young girl "not past the middle of the teens or fresh from the 8th grade" is able to secure an appointment in our city schools. Of the 70 or 80 appointments made this year, not one of the character mentioned by your correspondent has been made. A rule of the school board forbids the appointment or certification of persons under eighteen years of age.

It may not be improper to state here that hopes are at present entertained that in future the school board of Milwaukee will establish a plan whereby the teaching corps of Milwaukee may be recruited from time to time by properly certificated teachers. Fair salaries will be paid to all appointees, and some credit will be allowed for experience, so that a teacher of three years' experience and properly certificated may be appointed at once at a salary of $550 per year. An endeavor will be made, no doubt, to appoint a certain number of teachers at

large; and, by continuing the salary, and allowing them to perform temporary service while becoming acquainted with the system of work, the makeshift plan of employing uncertificated teachers as substitutes can be dispensed with.

The allusion to certain teachers' societies here as meeting to consider matters pertaining to school politics, is quite in keeping with the general tenor of your correspondent's letter. It unkindly misrepresents the real circumstances of the case, and is calculated to create entirely false impressions of the status of educational affairs in this city.

WM. E. ANDERSON,
Supt. of Schools.

A PRIMARY TEACHER'S REPLY.

MILWAUKEE, April 20, 1888.

EDITOR WISCONSIN JOURNAL OF EDUCATION:—Some statements in the "Milwaukee letter" published in the April number of the JOURNAL, need careful qualification and explanation, in order to give a correct view of Milwaukee school affairs.

It was not quite proper to mention the change in the salaries of primary school principals without throwing some light on the reasons for the proposed increase. The development of the primary schools is recent, and the compensation of the principals does not correspond to the importance of their work, the high standard of qualifications now required, and the recent changes in the salaries of principals of district schools and other teachers. In our primary school, the teacher of German will receive a larger maximum salary than the principal under whom he is employed.

Why did your correspondent not explain what he meant by "school politics?" He seems to insinuate that it is a very inferior if not discreditable field of activity. It is certainly quite right that a class of teachers should combine for the purpose of discussing exclusively the special wants of their branch of service; the objects and methods of their special work; their relations to the school board, its officers, and the community; the means of placing themselves in proper relation to others, and securing recognition of the importance and value of their work. Can it be doubted that such an organization is of the greatest value in the extensive and complex system of instruction in a large city?

The objects of the principal's association were not known to your correspondent, or he would not have reported "rumors." How much more instructive his letter might have been, had he given careful study to the system of teachers' meetings established by the rules of the school board. Under the direction of the superintendent, there are held frequent meetings of the principals, and of the teachers of the primary, middle and higher grades. The teachers of every school have monthly meetings under the direction of their principal. Besides this, there are regular meetings of the teachers of German, and special meetings conducted by the directors of music and drawing. An account of the aims and practical results of these meetings would have been interesting.

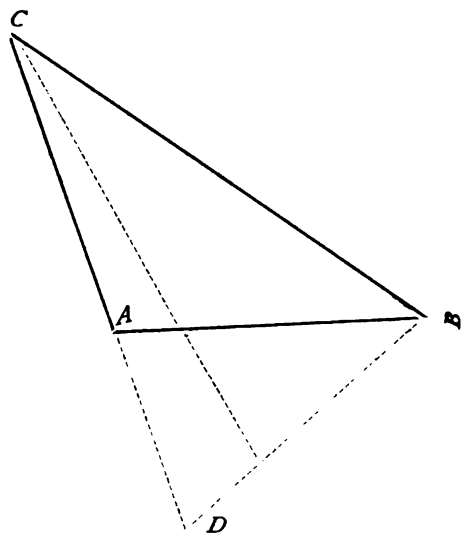
It should be remarked, however, that the discussions in these meetings generally pertain to matters connected with the practical work of teaching, and seldom extend into to the domain reserved for educational philosophers.

Your correspondent should have avoided the rather youthful tone of superiority that pervades his discussion of the affairs of others belonging to the profession of which evidently he is, or aspires to become a member. He seems to be a stranger, and therefore it is not surprising that he shows some ignorance of Milwaukee school matters.

PRIMARY SCHOOL PRINCIPAL.

MATHEMATICAL SECTION.

SOLUTION OF GEOMETRICAL PROBLEM IN APRIL JOURNAL.



Let C A B be the given angle, A B the adjacent side, and A D the difference between the other two sides.

To construct the triangle: — Produce C A externally a distance equal to the given difference A D. Join D and B. At the middle point of D B erect a perpendicular which shall intersect A C at C. Join C and B. A B C is the required triangle.

In case the given angle is acute, two constructions are possible, since either of the other sides may be the greater. A D may be laid off on the line A C, D and B be joined, etc. In either solution D B is considered as the base of an isosceles triangle, the apex of which is found by erecting the perpendicular.

C. V. BURNSIDE.

MARKESAN, April 10, 1888.

A PROBLEM IN ALGEBRA.

How shall this set of equations be treated to find the values required?

$$\begin{cases} 2x + 3y + 5z = 26\frac{1}{2} & 1. \\ x + 2y + 4z = 19 & 2. \\ 5x + 4y + 2z = 26 & 3. \end{cases}$$

P.

The above equations form the statement of problem number 9, page 152, of Sheldon's Elements of Algebra. The problem cannot be solved as given. It is necessary to have as many *independent equations* as there are unknown quantities, which condition is not fulfilled. If we add Nos. (1) and (3), and divide by 7, we get $x + y + z = 7\frac{1}{2}$. Subtract this from (1) and we get (2). Or, from six times (1), subtract seven times (2), and the result is (3). There are thus but *two* independent equations, containing *three* unknown quantities. In all probability the problem was made to fit certain predetermined answers, and by pure accident the choice of co-efficients was unfortunate. A change in any one of nine co-efficients will remove the difficulty.

OUR BOOK TABLE.

SCHOOL TRAINING FOR INDUSTRY.

Two interesting books relating to industrial training lie upon our table. The first is INDUSTRIAL INSTRUCTION, A PEDAGOGIC AND SOCIAL NECESSITY, by Robert Seidel, translated from the German by Margaret K. Smith, (D. C. Heath & Co. 170 pp. 80 cts.) This little treatise has now been translated into French, Italian and English, and this fact may show that the interest in the subject which it discusses is very wide spread. What Herr Seidel urges is industrial instruction as a port of common school work, not as fitting for some special pursuit. He says: "We do not consider industrial instruction to be merely occupation for otherwise idle boys, still less an opening of new sources of profit or income for poor parents; but the introduction of a new principle, that of labor, into public instruction, exactly as the Rousseau-Pestalozzian movement was, considered with regard to the principle of natural development and observation. So surely as with civil society the ideas of the culture of mankind, natural development, and observation made their way into the pedagogy of the time, so surely with the new order of society will its principle, labor, achieve its citizenship in the system of education." He urges industrial training purely upon social and pedagogical grounds. It is to be introduced not as a means of gaining a livelihood, but as an indispensable agency for the harmonious development of the pupils. It satisfies and cultivates the child's instinct for activity; awakens a lively interest in labor and its products; develops concentration and perseverance; sets in activity the greatest possible number of senses and powers; teaches to compare, test, invent, and thus lays a firm foundation for theoretical instruc-

tion. Further, it does away with the sharp contrast between school and life; teaches the pupil a just estimate of his own powers and his relation to the material world; keeps him from idleness, and makes him respect labor. These and other points are admirably enforced in Herr Seidel's essay. One who reads it will find most of the objections he can imagine fairly discussed and answered, and in the treatment of them the many-sided relations of industrial education to social and individual life very well presented. Herr Seidel's book is therefore theoretical, concerned with the philosophy and defence of industrial education, and not at all with its plans and details. It is decidedly the most satisfactory book of its kind we have seen, and we trust it will be widly read by those who are interested in educational progress.

The other work to which we referred is THE MANUAL TRAINING SCHOOL, its aims methods and results, with detailed courses of instruction in shopwork and drawing, by Prof. C. M. Woodward, of the Manual Training School, Washington University, St. Louis, (D. C. Heath & Co.; 734 pp. $2.00.) This work, ~~so far~~ as far as a manual for teachers, is confined to the sort of training which is practicable only for pupils fourteen year of age or upwards. It corresponds not to the elementary school, therefore, but to the high school. Besides these details of instruction, Prof. Woodward gives a history of the development of manual training schools, and discussions of their theory and results. He finds the beginning of manual instruction in this country in 1865, at Worcester, Mass. But the greatest impetus and help to the establishment of schools for this training came from the Centennial Exposition in Philadelphia in 1876, and from the Russian exhibit there. For in 1868 DeLa Vos introduced in Russia class instruction in the use of tools, and attained results which laid the foundations of subsequent progress and made possible organized school instruction for the young. The St. Louis school, opened in 1880, was the first of its class. Its plan, in brief, is to carry on a high school course of three years with the addition of shopwork. The studies of each year are mathematics, science, language, drawing and shopwork. The shopwork is in wood for the first year, embracing carpentry, joinery, wood-turning, pattern-making, etc.; in mental chiefly for the second and third years, embracing molding, casting, forging, welding, tempering, soldering, etc., and chipping, filing, turning, drilling, planing, etc. In addition there is given to advanced pupils training in the principles of machinery, and in the management and care of steam-engines and boilers. We mention these in detail to indicate more accurately the extent and character of the work undertaken. Through the kindness of principal Belfield we were recently shown the admirable equipment of the Chicago manual training school, and some of the work of the pupils including fine tables and desks from the wood shops, a beautiful wrought iron gate from the metal shops, and designs and drawings for steam engines, etc., all the work of the boys of the school. Prof. Woodward gives estimates of the cost of the tools and machinery of the shops. He recommends a kit of tools for each group of boys which will cost $6.15; a kit of individual tools for each boy costing $5.85; a kit of special tools to be given out

for special work costing $30.10. The entire outfit for seventy-three boys, exclusive of engines, he puts at $1980.90; from which $1000 may be taken if all power attachments are omitted, and $114 must be added if wood carving tools are included. Prof. Woodward urges that the results of the introduction of manual training in the high schools will be that a larger number of boys will continue in school through the grammar and higher grades, and that they will have better morals, sounder judgment and higher success in life, while through these results will come the solution of our "labor problems." This promise is large, and assumes what we are not prepared yet to admit, that manual labor is an inexhaustible attraction for most boys. There are doubtless some of whom it is true that the shop would hold them in school, but we prefer to await the evidence of experience before committing ourselves to the opinion that this will be true of the great many, or even a very large number. What the boys want who leave school early is not education but freedom and a taste of real life—which they can no more get in a manual training school than in a high school. And just so far as these institutions are devoted to education and not to fitting for a trade, just so far are they opposed to all the instincts of the anti-school boy. It must, in the nature of things, be a long time before our communities take upon themselves the expense of furnishing manual training as taught in these schools to all school-going children above fourteen years of age; or even before those schools in St. Louis or Chicago seriously affect the attendance upon the high schools. Meantime, here is a new educational agency to meet a new want, and it has found its place in these cities beside the public schools, whose courses and practices it will probably modify advantageously. The manual training school is a necessity of the times. Its relations to our school system must be determined by experience.

—CHIPS FROM A TEACHER'S WORKSHOP, by L. R. Klemm (Lee & Shepard, Boston; 408 pp. For sale by W. J. Park & Co.) justifies itself by its title, and that by the observation that "Chips are useful for kindling fires." These chips are of various sizes and quality, many of them gathered from educational journals to which the author has contributed, and a good many of them seem to us well adapted to quicken the enthusiasm and improve the work of teachers in our common schools. Superintendent Klemm writes vigorously, independently and sensibly, on common school matters. These qualities will be, perhaps, not less effective because there is no sustained effort in the book. For example, he writes to a young teacher: "You cannot impart knowledge. All that you can do, and that I insist upon it, you must do, is to make knowledge palatable, to serve it well, to select it with reference to the child's mental stomach, to prepare it so that the child will be enticed to partake of it; but impart it you cannot. Really, my friend, the teacher is to be a good cook of mental food, and it depends upon his professional training and his experience whether he becomes a *chef*, and can make *chefs d' oeuvre*, or a Bridget who tortures the family with execrable experiments, and is finally degraded to scullery work." The chips are not alto-

gether without relation to each other; so that the author has been able to classify them into chapters or topics, such as, fundamental errors in teaching, some principles and methods, the art of questioning, arithmetic, geography, etc. This does not imply continuity, of course, but only a general relation of theme. An examination of the book materially increases our estimate of its value, and we believe that teachers in the common schools will find it both interesting and helpful to them in their work.

—GRUBE'S METHOD OF TEACHING ARITHMETIC EXPLAINED and illustrated, by Levi Seeley, (E. L. Kellogg & Co.; 177 pp.; $1.00), presents in detail work for the first four years of number study after the plan of A. W. Grube. This plan, as is now pretty generally known, consists in making each number in succession the unit of teaching, instead of making the four fundamental processes the unit. That this plan corresponds more closely to the natural development of the mind than the usual one will hardly be questioned, nor the value of following it thoroughly in the first year or two of school work. Some will be disposed to question the wisdom of pursuing it four years. The author has not simply edited Grube's treatise, but has made a new one by embodying features have which been developed by subsequent promoters of the system. The book is well printed, and will prove of great assistance to primary teachers.

—SHELDON'S COMPLETE ALGEBRA, (Sheldon & Co., 480 pp.) consists of the Elementary Algebra with one hundred pages of additional matter, in which are to found, besides further work in the subjects already discussed, such topics as inequalities, general discussion of quadratic equations, indeterminate equations, permutations, differentiation, etc. The book seems well adapted to classroom work, simple in arrangement, abundantly supplied with problems — in every way a very satisfactory text-book.

—THE SATIRES AND EPISTLES OF HORACE, edited with notes by J. B. Greenough, (Ginn & Co.; 306 pp. $1.35) is a very attractive book in its mechanical make-up, and the notes are abundant and very helpful. It is a very great convenience that they are placed at the bottom of the page instead of at the end of the volume.

COMPLETE GERMAN MANUAL for High Schools and Colleges, by Wesley C. Sawyer, P. D., (John C. Buckbee & Co.; 334 pages,) claims completeness in nothing more than adaptation to the needs of the student who has a fair knowledge of his own language. It is designed both for a grammar and exercise book, in order that it may meet the wants both of the mature student, who wishes to master the grammar first, and the beginner who wishes to combine grammar and exercises. Accordingly the grammar is first given complete and in the second part exercises are provided to be used in connection therewith, if desired. It was a novel and pleasing idea of the author to make his exercises in large part of choice sentences from classic authors, so that they have a worth in themselves besides their value as language drill. The book, indeed, seems admirably fitted to its purpose, and deserves to meet with favor.

—Numbers 33 and 34 of the "Riverside Literature Series" contain the first

and second parts of Longfellow's TALES OF A WAYSIDE INN,—the other part he to follow in a subsequent number. A pleasant introduction acquaints us with scene and characters and the story, and of the composition of the poems, and the notes are sufficient to afford all the help needed by young readers. What more delightful or humanizing than to have such a literary treasure as a school reading-book! (Houghton, Mifflin & Co.; 15 cents each.) No. 36 of the same series, SHARP EYES AND OTHER PAPERS, by John Burroughs, is an ideal boys' reading-book. There is the very breath and freshness of out-of-door life in it, and at the same time a wealth of information about common things which boys want to know, that will make it the inspiration of new life to many a young reader. We can think of nothing better for a bright, active, twelve-year-old boy than these essays; (15 cents.)

—In their "English Classic Series" Clark & Maynard issue THE KNIGHT'S TALE, from Chaucer's Canterbury Tales. By way of introduction is provided a life of Chaucer, an essay on the language of Chaucer, and a brief history of the English Language. Notes at the foot of the page, and an excellent glossary at the close of the book furnish sufficient helps for the reader. These books are both attractive in appearance and durable, being well bound in flexible cloth covers.

—The American Public Health Association publishes four interesting prize essays on hygiene. The prizes won by them, amounting to about three thousand dollars, were offered by Mr. Henry Lamb, of Rochester, N. Y. Their titles are: "Healthy Homes and Foods for the Working Classes," "Disinfection and Individual Prophylaxis against Infectious Diseases," "The Sanitary Conditions and Necessities of School Houses and School Life," and "The Preventable Causes of Disease, Injury, and Death in American Manufactories and Workshops, and the Best Means and Appliances for Preventing and Avoiding Them." The longest essay is of sixty pages and the shortest of nineteen. To place these admirable essays within the reach of all, the association offers them, in paper covers, at 10 cents for the first and 5 for each of the other three, to be had at the bookstores or of the secretary of the association, Dr. Irving A. Watson, Concord, N. H.

—ELEMENTS OF PRACTICAL ARITHMETIC, by John P. Payson, (Lee & Shepard; 145 pp.; 55 cents. For sale by W. J. Park & Co., Madison,) impresses us favorably by its small size, which results from the omission of useless processes, and making and the book conform to the methods pursued in the business world. "Each subject," the author tells us, "has heen prepared under the superintendence of a person whose life-work has made him master of that particular branch, thus making sure that the pupil is put in possession of the shortest and best methods, and those which are used by business men." This rids the treatise of a mass of scholastic lumber and the omission of compound interest, equation of payments, exchange, compound proportion, compound partnership, and cube root and the metric system, still further reduces the volume. It shows what may be done towards gaining time in the teaching of arithmetic if common sense is applied to the subject.

MAGAZINES AND PAMPHLETS.

—The *Century* begins a new volume with the May number. Mr. Kennan introduces his paper on Siberia and the exile system by telling how he happened to go to Russia. He obtained privileges because he went as a sympathizer with the government, but he returned a sympathizer with the revolutionists. The life of Lincoln grows in interest, treating of the border states this month.

—In the *Atlantic* Miss Preston's "Cicero in the Senate," is a very brilliant and interesting sketch. Miss Repplier defends Graham of Claverhouse in "The Cavalier." "Po Shandy" is a suggestive and vigorous sketch. The serials are excellent.

—Mr. Wells' final paper in the Economic Disturbance Series of the *Popular Science Monthly*, takes a hopeful view of the future; Darwinism and the Christian Faith; Relation of Evolution to Materialism; A Great Confession; The Future of the American Indian, and other striking papers.

NEWS AND NOTES.

—Science calls attention to the exhibit of school work of that city which Supt. MacAlister, of Philadelphia, has arranged to take place from May 9 to May 12, in Horticultural Hall. It says: "Under Mr. MacAlister Philadelphia's schools have become the most progressive in the country. The exhibit will include all kinds of school work that can be represented graphically or objectively, viz., manual training, industrial-art work, sewing, kindergarten work, drawing, map-drawing, penmanship, clay-modelling, and manual work of every kind produced in the school. An interesting feature will be the historical exhibit. This will consist of two school-rooms, so fitted up as to represent and contrast the arrangements and conveniences for public school education furnished by Philadelphia to-day and half a century ago."

—We are gratified to notice that at the last city election, Prof. T. B. Pray, of the Normal School, was chosen City Superintendent of Schools for Whitewater. Some objection seems to have been made, on the ground of his connection with the Normal School; but this ought to be and is an evidence of his fitness for the position. Men in other callings, doctors, lawyers and merchants are chosen city superintendents, and no one discovers any impropriety; but when one is named for the place who has devoted his whole time to education, there are those who affect to see some impropriety in the matter. In fact, it is too commonly assumed that a teacher is in some sort disqualified for the ordinary duties of a citizen by virtue of his calling, and teachers themselves often seem to act on the supposition. We are satisfied that the citizens of Whitewater have chosen well, and gratified to note this further evidence of the fact that the Normal Schools do not arouse local jealousies, such as to make their interests seem in any wise antagonistic to those of the local schools where they are situated. It is further of interest that the women voted in large numbers in the election, and contributed in no small degree to the majority of the successful candidate.

—In this connection it may not be uninteresting to note that Prof. Hutton, of the Platteville Normal, has just been re-elected a member of the city council.

—The summer school at Des Moines, Iowa, was attended last year by five hundred teachers of that state. It is to be in session again this year, and indications are that the attendance will be even larger. The Wisconsin school last year enrolled forty-two; but being now upon a more assured footing it is hoped that the enrollment will be much larger than that. There is a reason for the difference in attendence in the limited range of subjects offered here, which are ~~especially~~ adapted to the wants of grammar and high school teachers, and ~~especially~~ those who wish to study or teach natural science. But of these there ought to be a very large number in the state, and a large number who are anxious to improve their knowledge and skill by availing themselves of the superior advantages offered them at the University this summer.

—An evening school has been established in connection with the public schools of Madison. It was created in response to the request of a number of young men employed in the Fuller and Johnson works, who are now in attendance on it. The enrollment is between thirty and forty. The experiment was begun late in the season this year, but will probably result in a similar organization in the fall for another year.

—Of the evening school at Whitewater, which has closed for the season, the *Register* says: "About fifty have received instruction in penmanship and general studies, and, in all respects, the experiment has been most gratifyingly successful. Next fall the school will be resumed at an early date, according to present plans; and it is hoped that at least a hundred young men and women will take advantage of the opportunity to improve their knowledge of books and gain mental discipline. The students were to pay the uniform tuition of 25 cents a week to compensate the teachers, and it is to their great credit that not a cent remains unpaid. The board assumed the responsibility of furnishing rooms, light, fuel and janitor service, and feel that the small expenditure therefor was one of its best investments for the year." The possibility of establishing and maintaining such schools in our smaller cities seems in a fair way to be tested, and it would be hard to suggest a measure better suited to benefit the community, and to tie the schools closely to the life of the people.

—The new high school building in Milwaukee has been occupied less than a year, and already every seat is occupied. The school now enrolls 420 pupils. Both the president of the board and the superintendent indicate the necessity of providing at once for the erection of a second high school building.

—The burning of the high school building at Fort Atkinson inflicts a serious blow upon one of the most prosperous high schools in the State. The loss is stated at from $15.000 to $20,000, and the insurance at only $6,500. An addition of considerable extent had recently been made to the building, and other changes in it effected which very materially increased its conveniences.

—The day school for deaf mutes in Milwaukee numbers thirty-six pupils and five teachers. The pupils are taught to speak and to read speech from the lips of the persons addressing them, and the course of study is the same as that pursued by hearing children.

—In his last annual report Superintendent Anderson, of Milwaukee, dwells upon the deleterious effect of oral teaching, especially as respects the

progress of the children in learning to read. Learning to read is in fact learning to get information from books, and giving instruction in all sorts of subjects orally deprives the pupils of the chief opportunities and stimulus to learn to read. Now, learning to read is the most important of any of the school arts, as it puts in the hands of the pupil the chief instrument for subsequent self-instruction. The school reading exercise is inadequate to give this art. "Formality or formalism is satisfied with a standard of oral rendition of printed sentences. Fluency, facility, correct pronunciation; vocal inflection and slides conforming to punctuation; these are the sonant and mechanical evidences that the child understands what he reads. But these proofs of intelligent reading are insufficient. A miss of fourteen in one of our eighth grades could probably read a paragraph from Kent's Commentaries in a manner that would convey the full meaning to a capable listener, while she, the reader, might not get one glimmer of intelligence from the exercise. The teacher who relies solely upon sonant proofs that the child in profiting by the reading lesson, is in constant damger of deceiving herself."

—Of arithmetic the superintendent says: "Mental arithmetic was reintroduced some four or five years ago with good results, and a decided benefit to the whole training in mathematics."

—Those contemplating a trip to California this summer, at the exceptionally low rates offered, will find much to aid them in selecting a route in our advertising columns this month. The Union Pacific railroad presents great inducements with interesting side trips and return by the Mt. Shasta route. The Northern Pacific also offers interesting inducements.

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VACANCIES FOR THE FALL OF 1888.

NEVER before has there been so many calls for first-class teachers as the present year. We have been called upon to recommend teachers for schools in the East, West and South. The indications are, that good teachers are to be in great demand, and that better salaries are to be paid those who wish to make teaching a life-work. Among the vacancies on our books are the following:

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1	$2,000 position in the East.			
1	2,000 position in the West.			
2	2,000 positions in the Middle States.			
11	Superintendencies,	salary from	$1,500 to	$2,000.
36	"	" "	1,200 to	1,500.
60	"	" "	1,000 to	1,200.
50	"	" "	800 to	1,000.
75	Principalships,	" "	600 to	800.
40	"	" "	400 to	600.
13	Ward Principalships,	" "	600 to	1,200.
1	High School Principalship,	salary	$3,000.	
3	" "	" "	from $1,500 to	$2,000.
4	" "	" "	" 1,200 to	1,500.
8	" "	" "	" 1,000 to	1,200.
15	" "	" "	" 800 to	1,000.
16	" "	" "	" 600 to	800.
8	" "	" "	" 500 to	600.
7	" "	" "	below $500.	
32	" " Assistants,	"	$1,100 down.	

GRAMMAR GRADES:

10 places paying $700 and over. | 16 places paying $500 to $700.
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12	College presidencies for men; 5 principalships for ladies.			
2	Greek professorships,	1 $1,800 and	1	$1,500.
16	Latin professorships,	salaries $600 to		$4,000.
12	Mod. lang. professorships,	"	500 to	1,400.
8	Mathematical "	"	600 to	2,000.
6	Literature "	"	600 to	1,000.
14	Chemistry and Physics	"	600 to	1,200.
4	Biology "	"	800 to	2,000.
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CORRESPONDENCE FROM JAPAN.—A JAPANESE HIGH SCHOOL.

The school in which I am teaching is called "*Ibaraki Ken Jinjo Chin Gakko*," which means "The Common Middle School of Ibaraki Province." Nearly every one of the 36 *Ken*, into which Japan is divided for governmental purposes has its "Common Middle School," usually situated in the capital city, but sometimes in a larger or more prosperous place. Every province is required to support a Normal School (*Shihan Gakko*), and may add such other institutions as it is able to support. It, therefore, happens that most of the provinces in addition have either a *Jinjo Chin Gakko*, or a *Koto Chin Gakko* (Higher Middle Schools), the latter of which has a more extensive course than the former. In a few provinces, however, the public support only the Normal School; while the *Chin Gakko* is supported by private liberality. The other schools in the educational system of Japan, besides the various professional and special institutions, are the *Sho Gakko* (Children's School), which corresponds to an American Grammar School, and the *Dai Gakko* (University). I ought, perhaps, logically to treat the general before the particular, and write first about the educational system of Japan; but I have not yet been able to collect sufficient data for that purpose. I shall, therefore, proceed on the pedagogical principle of going from the known to the unknown, and shall write something about a Japanese educational institution which seems to me to correspond to an American High School.

The Ibaraki High School at present has rather crowded accommodations, because it can use only part of the buildings belonging to the

Normal School. But in a short time, probably when this appears in print, the Normal School will be settled in the new buildings on the old castle grounds; and the High School will then have more commodious quarters. At the beginning of the current year there were more applicants for admission than could be accommodated; but, when the High School has the sole use of the present buildings, the Principal hopes for 350 pupils.

The High School is under the direct control of the provincial authorities, and the indirect control of the central government at Tokyo. In almost all matters the decision of the provincial authorities is sufficient. But frequent visits of inspection are made by officials of the Imperial Educational Department; and in such a matter as the engaging of a foreigner to teach English, permission must first be obtained from the central government. The expenses, which for the fiscal year closing April 1 were about $10,000, are appropriated from the general tax fund of the province.

The institution is in charge of a Principal, who has 12 assistants, besides a Librarian and a Treasurer. The school is especially fortunate in having a well-educated and broad-minded Principal in the person of Mr. T. Watase. He is a graduate of Sapporo Agricultural College, which has a broader course than its name implies; and he has traveled in Europe and America. Prof. Kawamura, whose department is Chemistry and Agriculture, and Prof. Tani, whose specialties are Botany and Zoology, also speak English; and several others of the faculty can read and translate English. The Principal teaches only 9 or 10 classes per week, so that he may have ample time for supervision. The other teachers have from 15 to 18 classes per week.

There are now about 230 pupils in the school. At the beginning of the year there were 250; but during the year for various reasons, as often in American schools, the number diminishes. The students come from all over the province, from city and country, and seem to represent all classes of society, except the very poor. Many of the boys of the latter class would, perhaps, like to avail themselves of the privileges of the High School; but they can not bear the expense. For each pupil, besides the usual incidental expenses for paper, ink, etc., has to pay a tuition fee of $1.00 per month. Moreover, from Mar. 1 they have been ordered to wear foreign clothes; but, in order to prevent any rivalry in the matter of dress and any striking contrasts between the poorer and

richer, these suits are to be home-made. With but few exceptions the scholars wear suits of navy blue and square-topped caps, the latter of which bear a star-shaped Chinese character, which means *chin*. They are all the way from 12 to 22 years of age: and in respect to industry and ability are like boys all the world over. I may say, however, that the large majority of them are eager for learning, and follow the advice which their Principal gave them at the opening of the present term: "Play when you play, study when you study." All text-books are loaned free of charge.

The school year opens about the middle of September and continues till about the middle of July. There is a winter vacation of two weeks from Dec. 24; but there is no vacation in the spring. There are eight national holidays which come during the school year, and, perhaps, one or two extra ones are granted for special reasons; but otherwise the scholars are kept busy at work during the time mentioned.

The sessions are held every day except Sunday; but Saturday's session is only a half day. In the fall and spring the daily sessions are from 8 to 12 and from 1 to 2 o'clock; in winter from 9 to 12 and from 1 to 3 o'clock; and in June and July from 7 to 12. There are no opening, or general, exercises, except as occasion may demand. Each period is of one hour's duration, although five minutes are allowed as an interval. The signals for the close of the recitation at five minutes before the hour, and for the beginning of the next recitation at the hour, are given by one of the school servants, or janitors. He has two pieces of polished oak wood, about one foot long, two inches wide, and one inch and a half thick. These he claps together several times for the required signal. These blocks, however, will soon be superseded by a bell.

Each class has a room, to which each teacher goes to conduct the recitation. These rooms are provided with table, small black-board, benches and desks. In cold weather there are also several large *hibachi* (fire boxes), around which the students gather during the intervals between the hours. Another year, however, stoves will be used to heat the rooms. The scholars are arranged in each room in the order of their standing with the highest in the rear. When the teacher appears in his place at the beginning of each recitation, the pupils rise in their places and greet him with a profound bow, which he returns; and at the close of the recitation this salute is repeated by both parties. When,

moreover, a pupil is unable to recite, he signifies that fact by a bow to the teacher.

The course of study covers five years; but, as the First Year Class is usually so large as to require division into two sections, there are six different classes. The school regulations require that the students shall have 28 hours of work per week; so that it can be readily seen, that they are kept pretty busy. Each one has a class exercise every hours during the daily session, so that the study-hours are entirely outside of the school. And, while it is true, that each class devotes three hour per week to physical exercise under the direction of instructors, there still remain 25 hours, which are devoted each week to purely literary exercises. This, moreover, does not include the time necessary in preparation for the *Seinenkwai* (Young Men's Association) of which mention will be made again later.

First, let me speak more particularly about the physical exercise, which is a regular part of the school work. During the first three years it consists of practice in marching evolutions, the various calisthenic exercises with the body, and dumb-bell, ring and Indian club movements, —all of which they learn to perform very skillfully and prettily. During the last two years the exercise is a regular military drill with sword and gun, and is very comprehensive. This is in accordance with a regulation of the Imperial Government, so that the youth may be trained to habits of order and promptitude and made efficient soldiers. If, moreover, they pass through this drill in the higher institutions of learning, they are to a certain extent exempt from conscription into the regular army. That is to say, they are allowed the privilege of a voluntary enlistment of one year in the service; and then, when the age of conscription arrives, they are exempt. Or, if the graduate at the age of conscription be absent from the country on leave from the government, he is exempt. A school diploma also procures exemption from the preliminary examination for the lower civil service.

The studies of the first year are writing, arithmetic, composition, geography, drawing, history of Japan, natural history, elementary geometry, Chinese and English. In the second year, arithmetic, composition, drawing, geometry, Chinese and English are continued; and general history (with Parley as a reference book), geography (Mitchell), algebra, (Todhunter), physics, and morals (according to the Chinese system), are added. In the third year composition, algebra, draw-

ing, geometry, morals, history (now with Swinton as reference book), Chinese and English are continued, together with physioloy, physical geography (Geikie), and chemistry. In the fourth year in place of physiology and morals, agriculture and moral science (according to Christian system) are substituted. The Seniors are treated to the following mental bill of fare:—algebra, drawing, history, physics, botany, zoology, chemistry, agriculture, trigonometry, moral science, Chinese and English.

Of course, each one of the ten or twelve different studies can not receive attention every day; but they are all scattered around through the week in varied proportion. For instance, English is allotted 28 hours per week; of this time 10 hours are given to Japanese teachers for the purpose of translation, and 18 hours are devoted to work with the foreign teacher. [To the latter each section of the First Year Class comes twice a week; the Second Year Class three times a week; the Third Year Class four times; the Fourth Year Class three times; and the Fifth Year Class four times.]

In the study of English the First Year Class are in Willson's Second Reader; the Second Year Class are just beginning Barnes's National Fourth Reader; the Third Year Class are soon to finish the same book; the Fourth Year Class lately began the the National Fifth Reader; and the Fifth Year Class are almost through the same book. In the first year especial attention is given to reading, spelling, and the use of simple sentences. In the second and third years, while reading and spelling are by no means neglected, writing from dictation, conversation and short compositions are made of much importance. In the fourth and fifth years composition and conversation take the principal place.

It is very encouraging to observe the zeal which almost all manifest in the study of English. They are very anxious to learn, not only the language, but also the history and customs of America. They frequently call for a "story of America;" and only the other day one of the boys asked me to "tell simply the history of the Revolutionary War." Several of them evidently have in view a trip to America for educational purposes.

They fully appreciate kindness, and are very profuse in their thanks. They have often expressed their appreciation to their teacher, who came as one boy said, "many thousand miles across the Pacific Ocean, leaving home and friend." Another boy expressed himself so poetically,

that I quote without correction. He said: "You are my light and my ship to across the sea of the English language."

It is, of course, to be expected that they will make many mistakes in their use of English. They naturally transfer their idioms to the English language, and in thus translating literally make, sometimes amusing, sometimes incomprehensible expressions. When there are two or three English words, which seem to mean the same thing, they are pretty certain to select the biggest. For instance, my interpreter, in writing about his trip to Tokyo in the stage, informed me that "the roads were disintegrated by frost." He is evidently-like the Liberian boy, who wished to "go to *big* America in *big* ship to learn *big* English." To illustrate other curious mistakes, I quote sentences which I have seen or heard, as follows:

"The squirrel died with a gun;" "Marry Christmas;" "Last holiday I visited my native family;" "Door lock, steal-man come;" "I am sickness;" "Boots and shoes manufactory of women and children; "The rain will make the glass grow." (This mistake is the stranger, because the Japanese usually have great trouble in detecting, or giving, the sound of *l*, and always use *r*). "The seeds of speech." (This expression means "subject of conversation," and is frequent). But, when I remember, that so many of those to whom English is the native language do not speak it correctly, I wonder that some Japanese speak it so well.

The examination system seems in the main to be conducted so as to avoid most of the evils, and obtain most of the benefits, of that system. There are entrance examinations for new pupils, and regular examinations at the close of each term. There are also examinations now and then throughout the year, as the Principal directs; and these are given without notice, so that there is no opportunity to "cram." The marks of all these examinations, averaged with recitation marks taken now and then, determine the standing of the pupil. After each examination the seats of the pupils are changed according to their new averages. If at any regular examination, a pupil's general average is less than 60, or his average in any one branch is below 50, he is forthwith dropped into the next class. With the exception, of course, of the physical exercise examination, which must be "sui generis," the examinations are sometimes written, and sometimes oral.

When the regular school program, or a meeting of the literary society

requires an afternoon session, most of the pupils carry a lunch. Those who live near the school perhaps go home for dinner; but there are many who come in from the country many miles around, and cannot return home till after school. The lunch is brought in a small rectangular box, and consists of rice, fish and perhaps vegetables. But, as the quantity is not very great, they eat it in five or ten minutes, and spend the remainder of the noon recess in recreation. When I consider the light diet, I do not understand how they can endure the hard pressure of the school routine.

The Young Men's Association meets every other Saturday afternoon; and the program consists alternately of speeches and a debate. Several members of the faculty are always present; and one of them is appointed critic, while another usually speaks on some topic. The students attend faithfully, and evince much interest in this important auxiliary of school work. I quote two or three of the topics at one meeting: "Self Respect," "The Commerce of Japan," "The Study of History." The last debate, (which was carried on by six or eight speakers on each side,) was upon the following question: "Which is it better for us to change first, our dress or our food?" I did not learn the decision, which is usually given by the vote of the meeting.

At the close of each year there are "commencement exercises." To these the Governor of the province, other officials, and the leading citizens are invited. The Principal and the Governor both deliver addresses; the diplomas are presented to the graduating class; and then the valedictorian of the class reads a speech. Music is interspersed in the exercises; and refreshments are served at the close.

I suppose that you have noticed that no mention has been made of girls. In the Primary School and the Model Department of the Normal School boys and girls are educated together. Formerly beyond that very little provision was made for the education of the daughters, except through private or missionary enterprise. Inasmuch as the girls were often married off at as early an age as possible, there was very little opportunity for much education. But Japan is waking up to the necessity of a good education for the mothers. A Girls' Normal School has been established in Tokyo through the encouragement of the Empress, and there are female annexes to many High and Normal Schools. In other places women's associations have been organized to advance the interests of the sex; and the signs of the times indicate a change in

the condition of woman. But my present subject forbids me to write more in this line; perhaps, at some other time I shall be able to write more at length about female education in Japan.

I hope that this running sketch will give you some idea of the workings of a Japanese High School. And, while you will probably find opportunity to criticize, it seems to me that you must be impressed, as I have been, that, all things considered, the Ibaraki High School, as an example of its kind, is remarkably well-managed, and is doing good work in education. *E. W. Clement.*

MITO, JAPAN.

A SUGGESTION FOR RHETORICAL EXERCISES.

A perplexing problem in school management is "What shall we do to make rhetorical exercises profitable and interesting? The average teacher is skeptical regarding their value, and were it not for the pressure of public opinion he would ignore them completely. But as five patrons out of ten desire that their boys shall become eloquent orators —second Henry Clays, the teacher feels compelled to do something. He hopes, at least, that his pupils may, by means of declamations and the reading of essays, acquire some habits of self-possession and some power in oratorical expression.

That the teacher's hopes and the parents' desires are not even approximately fulfilled in nineteen cases out of twenty is no new fact. These exercises in elocution are generally undertaken by the pupil very reluctantly, and when not done cheerfully, they are productive of creditable results neither to teacher nor pupil. Not more than one pupil in ten has any marked ability for speaking or declaiming, and it seems a waste of time to insist on each one's endeavoring to become an elocutionist without possessing any natural aptitude therefor. But children should be taught to express themselves naturally and without embarrassment in public. And this can be done, if suitable exercises are chosen.

The experience of the writer has led him to introduce sub-lectures upon various scientific topics, especially for those, who write essays and declaim unwillingly. Some pupil will take for his topic "The Structure of the Ear." He will draw a large diagram of that organ upon Manilla paper. This is hung up before the school, and the pupil, with pointer in hand, tells the school what he knows about his topic. He

employs the language that comes to him at the moment of speaking to describe his diagram, and having his hands occupied, he talks with but little embarrassment. Again, another one has "Hydrogen" for his topic, and by a series of suitable experiments he leads his fellow pupils to understand some of the simpler facts concerning that element. While he is performing his experiments he is talking, and interested himself, he makes others interested also.

One excellent feature of these exercises is, that boys and girls who try all sorts of devices to escape writing essays and declaiming, undertake these sub-lectures cheerfully. Those pupils who have some natural aptitude for declaiming are given suitable declamations to learn, and some others essays to write. Thus our programme will be composed of exercises adapted to the ability and inclination of each pupil. For instance, our last programme consisted of the following five topics illustrated by diagrams: "The Structure of the Eye," "The Care of the Eyes," "The Structure of the Ear," "How We Hear." "The Barometer and The Thermometer." The following topics were illustrated by series of suitable experiments, "Chemical Action," "Hydrogen," "Laws of the Pendulum," "Pressure of the Air shown by means of the Magdeburg Hemispheres," "Two Kinds of Electricity." Also, there were two declamations and two essays. Our next programme will be similar to the one just outlined above. We advocate the introduction of such topics into our programme because it is one means of science teaching to the lower grades, which may interest many a youth in chemistry and physics, and lead him to remain in school until he can take them up in the regular course. If properly conducted the introduction of scientific experiments into the programme, will be productive of excellent results. Pupils will not acquire any less self-possession, and readiness of speech in talking about their experiments than by declamation, and we believe they will acquire more.

L. H. Clark.

SPARTA, WIS.

A SIMPLE ELECTRO-MOTOR.

The use of electricity for mechanical purposes seemed to demand that we have a piece of apparatus in our High School which would show that a current of electricity may be used to produce rotary motion. Our funds did not permit of our buying one, so with one fourth of a

pound of insulated copper wire, one fourth of a pound of annealed wire, a knitting needle, some copper strips, and a piece of board, all of which cost less than 50 cents I made a motor that, with our two-celled plunge battery, will make six hundred revolutions per minute.

To make the temporary or field magnet I used annealed wire, which came in the form of a ring,—bending it into the shape of a horse shoe and winding each side for about four inches with four layers of No. 16 insulated wire. To make the movable magnet I took a spool which had held No. 40 thread, and made the hole in it as large as it could be made. This I filled with pieces of annealed wire of the length of the spool. Before putting in the wire, however, I put the knitting needle through the center of the spool at right angles to the hole, as an axis on which the magnet could revolve. I then wound the spool with No. 24 insulated wire, to each end of which I fastened a thin strip of copper two inches long and one eight of an inch wide. These came just below the spool, and, to insulate it from the needle, I wound it there with twine, fastening the strips down by means of rubber bands at each end. This formed the commutator cylinder. I next placed the magnets on a support which would hold them in the proper positions with reference to each other. For the base of this support I used a bit of board six inches square, to one edge of which I fastened an upright about ten inches long, with a three inch strip of zinc fastened to the top.

The field magnet was secured to the base with poles upward, and the movable magnet placed in position to revolve between the poles by placing the needle in a vertical position, with the lower end resting in a shallow socket in the head of a steel nail driven into the base, and the upper end held in place by a hole in the end of the zinc strip at the top of the upright. To each side of the upright, at the point opposite the commutator cylinder, I fastened two thin copper strips one fourth of an inch wide, which extended one on each side of the commutator cylinder and acted as brushes. In making the cylinder I took care to so place the strips used that they would come in contact with the brushes when the poles of the movable magnet were at the point farthest away from the poles of the field magnet.

The work was all done in a few hours, and is such as can be done by almost any teacher. A good working motor is the result.

Allen B. West.

REEDSBURG, WIS., May, 2, 1888.

THEORY AND PRACTICE.

A SECOND LAURA BRIDGMAN.

The recently issued report of the Perkins Institution for the Blind, where Laura Bridgman has spent fifty years of her life, adds another most interesting and promising record to the accounts of persons afflicted with the loss of both sight and hearing.

Helen Keller is the daughter of cultured and well-to-do parents, and was born in Alabama on June 27, 1880. When about nineteen months old, she was attacked violently with congestion of the stomach; and to the effects of this disease are referred her total loss of sight and hearing. Previously she is said to have been of perfect health, and unusually bright and active. She had learned to walk, and was fast learning to talk. The loss of her senses thus took place about seven months earlier than in the case of Laura Bridgman, though Helen seems to have been as much if not more developed at nineteen months than was the latter at twenty-six months. In both cases a slow recovery was made, and a painful inflammation of the eyes set in. It is recorded of Helen that she "soon ceased to talk, because she had ceased to hear any sound."

As her strength returned, she gave ample evidence of the soundness of her mental faculties. She learned to distinguish the different members of her family and her friends by feeling their features, and took an especial interest in the affairs of the household. The little hands were constantly busy in feeling objects and movements of those about her. She began to imitate these motions, and learned to express her wants and meaning by signs, to a remarkable degree. Just before completing her seventh year, a skillful teacher from the Perkins Institute—Miss Sullivan—was engaged for her. At this age Helen is described as a "bright, active, well-grown girl," "quick and graceful in her movements, having fortunately not acquired any of those nervous habits so common among the blind. She has a merry laugh, and is fond of romping with other children. Indeed, she is never sad, but has the gayety which belongs to her age and temperament. When alone, she is restless, and always flits from place to place as if searching for something or some body." Her sense of touch is developed to an unusual degree, and enables her to recognize her associates upon the slightest contact. Her sense of smell is very acute, enabling her to separate her own clothes from those of others; and her sense of taste is equally

sound. In this respect she has an advantage over Laura Bridgman, in whom both these senses were reduced almost to extinction. She speedily learned to be neat and orderly about her person, and correct in her deportment. The first lesson is an interesting epoch. A doll had been sent Helen from Boston; and when she had made a satisfactory exploration of it, and was sitting quietly holding it, Miss Sullivan took Helen's hand and passed it over the doll; she then made the letters d-o-l-l in the finger-alphabet while Helen held her hand. "I began to make the letters a second time. She immediately dropped the doll, and followed the motions of my fingers with one hand, while she repeated the letters with the other. She next tried to spell the word without assistance, though rather awkwardly. She did not give the double *l*, and so I spelled 'doll' correctly. This process was repeated with other words, and Helen soon learned six words,—'doll,' 'hat,' 'mug,' 'pin,' 'cup,' 'ball.' When given one of these objects, she would spell its name, but it was more than a week before she understood that all things were thus identified." In a surprisingly short time Helen completely mastered the notion that objects had names, and that the finger-alphabet opened up to her a rich avenue of knowledge. Every thing had to be named and she seemed to remember difficult combinations of letters, such as "heliotrope" and "chrysanthemum," quite as readily and securely as shorter words. In less than two months she learned three hundred words, and in about four months she had acquired six hundred and twenty-five words,—a truly remarkable achievement. She still used her gesture-signs; but as her knowledge of words increased, the former fell into disuse. Next, verbs were taught her, beginning with such as Helen herself could act, as 'sit,' 'stand,' 'shut,' 'open,' etc. Prepositions were similarly mastered. Helen was placed *in* the wardrobe, and the sentence spelled out to her. 'Box is *on* table,' 'Mildred is *in* crib,' are sentences which she constructed after little more than a month's instruction. Adjectives were skillfully introduced by an object-lesson upon a large, soft worsted ball and a bullet. Helen felt the difference in size at once. "Taking the bullet, she made her habitual sign for 'small;' that is by pinching a little bit of the skin of one hand. Then she took the other ball, and made her sign for 'large' by spreading both hands over it. I substituted the adjectives 'large' and 'small' for these signs. Then her attention was called to the hardness of the one ball, and the softness of the other; and so she learned 'soft' and

'hard.' A few minutes afterward she felt of her little sister's head, and said to her mother, 'Mildred's head is small and hard.'" Even so arbitrary elements of language as the auxiliary 'will' and the conjunction 'and' were learned before two months of instruction had passed, and on May 1 she formed the sentence, "Give Helen key, and Helen will open door."

From this the step to reading the raised type of the blind was an easy one. "Incredible as it may seem, she learned all the letters, both capital and small, in one day. Next, I turned to the first page of the 'Primer,' and made her touch the word 'cat,' spelling it on my fingers at the same time. Instantly she caught the idea, and asked me to find 'dog,' and many other words. Indeed, she was much displeased because I could not find her name in the book." She soon added writing to her accomplishments, and carefully formed the letters upon the grooved boards as used by the blind. On the 12th of July she wrote her first letter, beginning thus: "Helen will write mother letter papa did give helen medicine mildred will sit in swing mildred will kiss helen teacher did give helen peach," etc. This well justifies the statement that she acquired more in two months than did Laura Bridgman in two years. Letter-writing is quite a passion with her, and, as she is also able to write by the Braille system, she has the pleasure of being able to read what she has written. Her progress in arithmetic is equally remarkable, going through such exercises as "fifteen threes make forty-five," etc. As examples of her powers of inference, the following will do service: she asked her teacher, "What is Helen made of?" and was answered, "Flesh and blood and bone." When asked what her dog was made of, she answered, after a moment's pause, "Flesh and bone and blood." When asked the same question about her doll, she was puzzled, but at last answered slowly "Straw." That some of her inferences are not equally happy, the following illustrates: "on being told that she was white, and that one of the servants was black, she concluded that all who occupied a similar menial position were of the same hue; and whenever I asked her the color of a servant, she would say, 'Black.' When asked the color of some one whose occupation she did not know, she seemed bewildered, and finally said, 'Blue.'" Her memory is remarkably retentive, and her powers of imitation unsually developed. One of her favorite occupations is to dress herself up,—a performance which she accomplishes not always with success according to our ideas.

Her progress continues, and each letter is a marked improvement upon its predecessors. A letter to Mr. Anagnos contains the following sentences: "My doll nancy is sleeping. She is sick. Mildred is well uncle frank has gone hunting deer. we will have venison for breakfast when he comes home. I did ride in wheel-barrow and teacher did push it," and so on. Enough has been said to indicate the remarkable powers of this unfortunate child, and to give basis for the belief, that if her training is continued in a wise direction, and with a proper appreciation of the value of detailed and accurate investigation, the world will be able to read in the life of Helen Keller a most momentous psychological lesson.—*Science.*

SUGGESTIVE PARAGRAPHS.

—He exercised a wonderful influence over the young; was quick to read character and gain confidence. He encouraged the timid, comforted the distressed, cheered the despondent, restrained the forward, convinced the perverse and refractory by an appeal to the reasonableness of his demands, or subdued them as with a flash of his displeasure, for when aroused he was awful. He was a man of decided character and great energy. This no doubt contributed much to the influence he wielded as teacher. But the true secret of his power over his pupils lay in the great love he bore them. It is a well-known fact that boys too timid to remain in other schools felt at home in his. And others who could not be governed elsewhere willingly submitted themselves to his control. They felt that in him they had a Master who dealt with them squarely; and while his displeasure might come suddenly and overwhelmingly like a flash of lightning, there was no lingering bitterness in it. His reproof was an honest reproof, free from scorn. We all highly prized his good opinion and strove to deserve it. He was just and impartial, his heart being large enough to take us all in. Boys while young are apt imitators, and his frank, open, manly way of dealing with us was of great benefit to us as an example.

—It will perhaps be wondered, that I mention *reasoning* with children; and yet I can not but think that the true way of dealing with them. They understand it as early as they do language; and if I misobserve not, they love to be treated as rational creatures, sooner than is

imagined. It is a pride that should be cherished in them, and as much as can be, made the greatest instrument to turn them by. But when I talk of *reasoning*, I do not intend any other but such as is suited to the child's capacity and apprehension. Nobody can think a boy of three or seven years old should be argued with as a grown man. Long discourses, and philosophical reasonings, at least, amaze and confound, but do not instruct children. When I say, therefore, that they must be *treated as rational creatures*, I mean that you should make them sensible by the mildness of your carriage, and the composure even in your correction of them, that you do what is reasonable in you, and useful and necessary for them; and that it is not out of *caprichio*, passion, or fancy, that you command or forbid them anything.—*John Locke.*

—"Literature consists of all the books (and they are not so many) where moral truth and human passion are touched with a certain largeness, variety, and attraction of form; and my notion of the literary student is one who, through books, explores the strange voyages of man's moral reason, the impulses of the human heart, the chances and changes that have overtaken human ideals of virtue and happiness, of conduct and manners, and the shifting fortunes of great conceptions of truth and virtue. Poets, dramatists, humorists, satirists, masters of fiction, the great preachers, the character writers, the maxim writers, the great political orators,—they are all literature in so far as they teach us to know man and to know human nature."—*John Morley.*

—A great contractor, building a line of railway, receives from a school a group of lads, curious, delighted to find themselves in the Rockies. He shakes hands with them at the station; he gives them their first mountain meal at his barracks. They mount their little burros and ride on to see the works. He explains to them the difficulties and the expectations. Before the day of welcome is over that man knowns which of these lads is sure to succeed; he knows which of them are not worth the salt he has given them that day; and two or three he holds in doubt. But he does not doubt because he fears about their mathematics, or their handwriting. He is sure of that, because he knows where they came from. He does not doubt because of their physical make up. Not a man has failed in the twenty miles' ride. What he has found in one or two is a moral quality. It is manhood—what the Romans called virtue —without which they know that no man could go to battle, It is the

only element that holds on to the end—which shares the triumphs of eternity. "Grit," the contractor may call it—that is his translation of the classical term. It is, from end to end, a moral quality. Tender women have it, as strong men have it. Uncle Tom in his cabin had it, though he could never read a book, as distinctly and as surely as the most learned scholar. It gives to the lad who goes out into the world *the control of himself.* In that control he masters circumstances. He can say "no" to this companion or to that. He can dress in this coarse coat and he is as easy and as little annoyed as if he were in broadcloth. He can decline wine at dinner. He can say he will not smoke.—*E. E. Hale.*

OFFICIAL DEPARTMENT.

THIRTY-SIXTH ANNUAL SESSION OF THE WISCONSIN TEACHERS' ASSOCIATION, AT EAU CLAIRE, WIS., JULY 3, 4 AND 5, 1888.

PROGRAM.

Tuesday, July 3, 8 P. M.

1. Address of Welcome . . . . . Hon. Geo. B. Shaw, Mayor of Eau Claire
2. ADDRESS—"The Functions of the State University," . . . . . Pres. T. C. Chamberlin.

Wednesday, July 4, 9 A. M.

1. Business.
1. PRESIDENT'S ADDRESS.
3. Paper—"The Study of Local History," . . . . . R. G. Thwaites, Sec. Wis. Hist. Society.
4. Paper—"What can the School do to Cultivate Patriotism?" . . . . . Prof. Theron B. Pray
5. Discussion—Led by Principal J. W. Livingston.

Wednesday, 2 P. M.

1. Paper—"Modern Mathematics" . . . . . Prof. Chas. H. Chandler, Ripon College.
2. Paper—"Shall we Teach the Children to See what Is"? . . . . . Miss Cornelia E. Rogers.
3. ADDRESS—"Farmers' Institutes as an Educational Factor" . . . . . Hon. Wm. H. Morrison.
4. Discussion—Led by Hon. J. B. Thayer, State Superintendent.

Wednesday, 8 P. M.

1. ORATION—"The Schoolmaster and the State" . . . . . Hon. Jos. V. Quarles, Racine.
2. Extemporaneous Addresses.

Thursday, July 5, 9 A. M,

1. Paper—"Language Teaching in Elementary and High Schools" . . . . . Supt. Wm. E. Anderson.
2. Discussion—Led by Principal J. C. Crawford.
3. Paper—"Does Education Educate?" . . . . . Miss Jessie Christie.
4. "Elimination of Unprofitable Work from the School Curriculum"—Discussion led by Prof. J. W. Stearns.
5. Election of Officers.

Thursday, 2 P. M.

1. LECTURE . . . . . Dr. Dan Milliken, Hamilton, O.
2. Paper—"The Physical Conditions of School Life" . . Pres. Geo. S. Albee.
3. "School Libraries, how to Get and how to Use them" . . . . . Principal Dwight Kinney, Supt. Addie Neff.

HOTEL RATES.

The Eau Claire House, Frawley House and Galloway House will entertain members at the following rates: If two in a room, $1.50 per day; if one in a room, $2.00 per day.

RAILWAY RATES.

The C. & N. W. Ry., C., M. & St. P. Ry., Wis. Central Ry., C., St. P. M. & O. Ry., C., B. & N. Ry., Mil. & No. Ry., M. L. S. & W. Ry., and G. B. W. & St. P. Ry. will return members who pay full fare going at one-third fare on presentation of association certificate.

In all purchases of tickets *going*, the purchaser should demand a "certificate" from the local agent in order to insure reduced fare returning. These certificates will be endorsed at Eau Claire by the W. T. A. as orders for sale of return tickets.

LAKE SUPERIOR EXCURSIONS.

The Wis Cen. line (and, it is hoped, the Omaha line also) will perfect arrangements at Eau Claire so that members will be enabled, on payment of the regular fare from Eau Claire to Ashland, to return from the latter point on their certificates at one-third fare, with an extension of thirty days in time.

If a sufficient number offer they will send a special train from Eau Claire to Ashland for our use.

This will afford an excellent opportunity to visit Lake Superior at slight additional cost, with ample time for returning.

ALBERT SALISBURY, President,
O. E. WELLS, Secretary,
WM. E. ANDERSON, Ch'n Ex. Com.

EDITORIAL.

THE manner in which the program for the summer meeting of the Wisconsin Teachers' Association has been adapted to the fact that the fourth of July falls during the meetings will strike all readers as exceedingly appropriate. The program indeed presents many features of exceptional interest, and will undoubtedly make the session a very profitable one. As was fitting, the occasion of a meeting at Eau Claire has been seized to provide a summer excursion to lake Superior and Ashland at very small additional expense, and many teachers will be glad to avail themselves of this chance to see for themselves this rapidly developing portion of the state.

IN the series of papers cn "What shall the public schools teach?" which the *Forum* has been publishing as a sequel to its "How I was educated" articles, the most striking feature is that the current curriculum of the schools receives no attention at all. Dr. Savage discusses essentially the duty of the schools to teach morality, and shows that this may be done apart from strictly religious teaching. Dr. Parkhurst summarizes their province as to teach the young to think, to work, to behave, and to love their country. Dr. Flint dwells upon the physiological relations of the school and the teaching of physiology and hygiene; and so on. Most of the writers glance approvingly at manual training in school; but, so far as we have read the articles, no one tackles directly the question whether the present curriculum is as well suited to the wants of the time as any that can be proposed; or, what defects in the present plans deserve the most serious attention. These are nevertheless very practical problems, which require for their solution both broad views of life and close personal acquaintance with the work of the schools. These are the questions which ought to press upon superintendents and enlist the thoughtful study of the best school principals. At the last meeting of the Department of Superintendence at Washington, Pres. Eliot, of Harvard College, compared the secondary schools of France with the grammar schools and the Latin school of Boston. He pronounced the French program decidedly the more substantial. It requires more exertion on the part of the pupil and introduces him at an earlier age to the study of serious subjects. The French boy begins the study of foreign languages

and history at eight years of age, and gives but one third as much time during his course to Arithmetic as the American boy does. Dr. Eliot thinks that at eighteen the French school boy is ahead of the American at nineteen. This is helpful criticism. It calls attention to the necessity of comparing ourselves with others, and not drifting on thoughtlessly on the stream of tradition. Are our elementary programs meagre? Do they waste time because ill arranged and cumbered with trivialties? We have on the one hand the charge that they are over-crowded and on the other that they lack weight. It is possible that both charges are true, and no more important problem pertaining to public education can be suggested than the one thus forced upon our consideration.

SOME months since we noticed the offer by the *Academy* of a prize of fifty dollars for the best essay on "Science in the Secondary Schools." Twenty-six papers were submitted to the committee of three prominent teachers of science, and the one which received the prize is published in the May number of the magazine. The introductory paragraph suggests in so striking a manner what is one of the strongest arguments for the teaching of science in elementary schools that we give it entire: "The majority of pupils enter the secondary schools with three dominant ideas in regard to school work: 1. Facts and principles are to be learned from books. 2. They are to be learned by a process of memorizing. 3. The immediate object of such memorizing is to enable the pupil to satisfy the teacher in recitation, and thus to obtain good marks or credits upon the record. That there are individuals, schools, possibly whole towns, wherein these ideas are not dominant, does not impair the general accuracy of the statement. These ideas have been acquired by six or eight years of systematic training, at an age when the mind is "wax to receive, marble to retain." The special function of the science teacher in the secondary schools is to eradicate their ideas so far as they are false, to correct them where they are half true, to change these organic habits of mind, to teach the pupils to observe facts, to think about them, to arrive at principles by a process of reasoning, and to record observations and conclusions in clear and precise language. He is to begin a new education, to compel the pupil to abandon the literary method, and to adopt the scientific. The magnitude of such an undertaking can be appreciated only by those who have tried it." That this is a fair presentation of the case will hardly be questioned. Yet it amounts to saying that the science teacher has to counter-work and subdue the habits instilled in the elementary school, and revive again and make vigorous the habits the pupil brought to that school and has had suppressed by its processes. He comes to it a learner from things and experience; he is made by it a learner from books merely; and in the high school the science teacher must laboriously make him again a learner from things. How wrong our processes are thus appears. We ought indeed to have made him a learner from books in the elementary school, but in such a way that he would continue a learner from things, and that the books would be to him only a new instrumentality for arriving at a knowledge

of things. This we are not doing. Instead we are supplanting the old and practical habits of childhood by the purely scholastic habits of the class room. The introduction of science teaching into all grades of the elementary school, but especially into the grammar grades, is demanded to correct this evil. It is not to be taught merely for knowledge, but above all for discipline, as a means of cultivating one side, and that the most practical and important side of the pupil's nature. There is no reason why the secondary schools should have to teach pupils "to record observations and conclusions in clear and precise language." The elementary school should do this, and do it in place of the senseless, formal, and almost useless exercises now carried on under the name of "language work." The way to learn to talk and to write is to talk and to write your own thought, what you have observed and concluded, not to tinker dried specimens of "language," or botch together sentences into an exercise or composition. Science in the elementary school should furnish part of the materials for really profitable language training.

In view of prevalent discussions of our public schools one is often forced to ask himself, what has become of the homes? It was once the accepted theory that the home was the source and fountain of social order; that its most important service was the training of the children in it; that this service is required of parents by natural and civil law; and that with them rests the final responsibility for the general direction of the children, and the final outcome of their training. The school grew up as an adjunct to this home discipline. The amount of attention required to give children a knowledge of reading, writing and arithmetic, and the general information required for intelligent living, was so great that wealthy families employed capable persons to aid them in this important part of their duties. In time the school was organized for this purpose, and finally was made free to all. Thus originally the school was an adjunct to the family, created to aid the parents in a certain part of their duties. Now confusion seems to have arisen. We have got to talking about "Education," and "the symmetrical development of a human being," and "the training of the whole nature," and "a sufficient preparation for life," and so on, in a way which assumes that the public school is charged, or to be charged, with the whole reponsibility for the training of youth; that it must find out what they need and furnish forth every thing needed on pain of immediate condemnation in case of failure; that it is sufficient to show that young people, or many of them, need some special training in order to establish the insufficiency of schools which have not already occupied themselves with giving this; in short, we are driven to ask seriously, what has become of the homes? Have they no responsibility in this matter? Are they reduced to the duty of ministering merely to the physical needs of the children? They need religious training; therefore the schools must give it. They need to understand type-writing; therefore the schools must teach it. They need industrial training; therefore the schools must give it. They need social training; therefore the schools must give it. Can this method

of reasoning stop short of denying the responsibility of the home, and placing upon the state directly the entire burden and responsibility of equipping its youth for the struggle of life? We venture to maintain that the school is a very poor agency to be charged with such responsibilities. It has too many children to care for, too little insight into individual needs, is too imperfect an instrumentality at present. The view seems far safer that the public school was created to do a certain definite work in the training of children, as an adjunct to the home. Tradition has determined what that work is. Well; so let it be. If we add to it, let us do so sensibly and by littles, and not at once dismiss home responsibility and take up the immense and indefinite work of "training the whole nature," "symmetrically," and so as to give "a sufficient preparation for life."

OUR DRAWER.

MILWAUKEE LETTER.

Those criticisms — A reserve corps of teachers — Pensioning teachers — Discussion of the course of study at the principal's meeting — What may be eliminated.

There is nothing like accuracy, even in matters of tweedle-dee. Was it the printer or the penman who omitted the word "much" in the phrase "not much past the middle of the teens"? The middle year of that period is the sixteeth; one who has passed it is 17; at 18 she is not "much" past the middle. Let us hope this may prove less distracting than the *Tribune's* famous hen-and-a-half problem, and may be a satisfactory explanation of the almost "libelous" blunder which so stirred the honest soul of our highly esteemed critic No. 1. Many thanks, too, for the recipe telling how to write an interesting letter, so kindly furnished by critic No. 2. The pleasure felt in reading such charming epistles, written in the tone which these two genial critics employ, is full compensation for the chagrin the writer feels at having inadvertently raised such a tempest in a tea-pot. Write again, gentlemen.

The recommendation recently made by the Superintendent in respect to a reserve corps of teachers has been adopted by the Board, and the plan will go into operation next year. Briefly stated it is this: Besides the regular teachers in charge of rooms, a reserve corps will be employed, the members of which will be of equal rank as to qualification and salary with other teachers. The number thus employed will not exceed 20 during the first half of the year, and in the last half no new members will be added so long as the number already in exceeds ten. These teachers are to report at the office daily at 8:30 and 1:15, and will do substitute work, filling temporary vacancies until permanent positions are open, when they will be appointed to regular work.

Persons who are appointed to positions in the reserve corps will be sure of permanent employment within a year if they prove successful in the work; for it is morally certain that at least twenty vacancies per year will occur in the

future as in the past. The plan gives promise of a satisfactory solution of the problem how to supply teachers to fill vacancies that occur during the school year with least detriment to the schools and without greatly increasing the expense.

The principle of pensioning teachers for long and faithful service is recognized to a limited extent by the School Board, by allowing leave of absence in certain cases without forfeiture of full salary; the rule has recently been extended and made more liberal, so that now a teacher of ten years' satisfactory service may be granted leave of absence for six months on half pay, and of twenty years', the same time on full pay less the amount paid for a substitute. The Board did a graceful act and manifested their appreciation of professional service of a high order when, in response to a communication from Pres. R. C. Spencer of the Phonological Institute, thay paid Prof. Paul Binner, Principal of the School for Deaf Mutes, for time spent last September and October visiting schools for the instruction of mutes in Europe. That able and skillful teachers render professional service, and are not engaged in mere job work that may be measured and paid for by the day and hour is a truth which, is surely though some what slowly receiving due recognition.

It would be difficult to find a similar body of educators who surpass the Milwaukee Principals in the amount of pithy, practical discussion which they can put into an evening session when they once "get down to business." The revision of the course of study for the grades has been discussed more or less for some time past, but at a meeting held last week the problem was taken up as the special topic for consideration. Principal Hooper would have fewer declamations and more supplementary reading, and favored the elimination of puzzles in arithmetic, also of longitude and time, mensuration, ratio and proportions whatever is obsolete in denominate numbers and per centage; he would not seggregate physical geography from the other phases of that branch, but would have it taught along with descriptive geography. His paper was well received.

Prin. Donnelly has neither admiration nor reverence for the present syllabus; he claims that it cramps the teachers, crams the child, and promotes a shallow smattering of knowledge closely akin to sham. He laid down a few propositions which all those who have to do with making or altering courses of study should hold as cardinal doctrines; among them were these: Only what can be well done should be undertaken; additions to the course should not be rashly made; the average capacity of the average child is the prime criterion by which to fix the amount of work; reading, writing, spelling, grammar and arithmetic are *the* common branches. A number of cases of over work were cited, and the speaker's earnestness arose almost to the point of invective in his criticism of the work doing in physiology, history, constitution, physical geography and German in grades below the high school, while "a facile and correct use of English is not gained." On this last point, he favored "lopping off the excrescence if it cuts to the quick." Mr. Donnelly said pupils entering the high school cannot add correctly. Prof. Peckham, of the high school, being present, re-

ported that a test made by him some years ago was warrant for the statement; but Supt. Anderson declared that recent examination papers written by eighth grade pupils in all the schools do not confirm the statement. This paper was a fitting prelude to the one which followed.

Prin. White, in his usual clear and vigorous manner, and with the unflinching courage of conviction, cut straight to the core of the question—or, to change the figure, took the bull by the horns—and advocated the total abolition of the teaching of German below the high school. He reviewed the annual address of Pres. Oberman, of the School Board, in which a plea was made for the retention of German, and argued that the teaching of any foreign language in American common schools is unjustifiable, whether on grounds of public policy, mental discipline or practical utility. In answer to the argument that it is well to retain the German not so much for any serious purpose of perpetuating the language on this continent as for a sort of decoy-duck to attract Germans to the public schools and thus get an opportunity to Americanize them, Mr. White produced statistics to show that no increase of attendance has marked any extension or improvement of the instruction in German; and from this he argued that the language of their fatherland is not a necessary magnet by which to draw German children to the public schools. This paper elicited so much interest that less attention than it deserved was given to the able and carefully written paper presented by Prin. Seifert which followed, and in which the curriculum was compared to a sixteen button glove, which might spare a few buttons without impairing its usefulness. In the main, his pruning knife would take about the same course as that recommended by the first two speakers.

Supt. Anderson thought it hardly worth while to discuss the exclusion of German, and reminded the principals that the statute makes mandatory provision for the teaching of physiology and constitution; he advised moderation and the direction of effort toward the attainable only.

Several topics of interest must go over till next month, as this letter has reached the limit assigned; it is "respectfully submitted," subject to correction, criticism or comment by any sensitive soul who may feel that his spiritual corns have been trodden upon by I. C.

WANTED—IGNORANT TEACHERS.

The following letter, which has come into our hands from the County Superintendent to whom it is addressed, is interesting as a plain and fair statement of views which prevail only too commonly in country districts. Our heading is not a misrepresentation. What is wanted is ignorant teachers, and they are wanted because they are cheap. Common sense and business principles are not applied to the matter of school teaching. In other matters we recognize that it is true economy to employ a good workman. To be sure, we have to pay him more, but we get more for our money. To employ a poor teacher is often to throw away all the money expended for the school. Thus to save thirty

dollars these economists are satisfied to waste two hundred. They complain because the state, through the County Superintendents, puts obstacles in the way of such folly, and seek to thwart its efforts by threats like those implied in this letter. We have thought best to print it just as it is, because the punctuation and capitalization are significant elements in the case.

Dear Sir:—I would advise you as a friend; if you expect anything in the future from the public—not to conduct your examinations for teachers in such an arbitrary manner, there is much complaint, and has been for the last year in regard to your style, you seem to forget that 9-10 of the Schools in Co do not need such a high grade as you demand of teachers, and many districts cannot afford the wages that teachers are now asking. You seem to be working in the interest of a certain class and that is the teachers. there are many schools that have in the summer from 6 to 10 scholars and according to your systim they must pay $25.00 per month, whereas, if you lowered the standard some on 2d & 3d grades those that wanted a higher grade than 3d could employ the 2d grade, it seems to me and others that you ask too many foolish unnecessary questions as for instance how do you expect teachers to be posted in civil service reform and where is the utility of being posted in that and such as what are the powers of Congress what assembly dist and what Senatorial dist do you live in, and Salaries of Members of the Cabinet, Judges of Supreme Court, &c &c &c and many more questions of like import, Making the success of these examinations depend upon the correct answers to these questions in which I do not believe your lawyers or public men are posted or even yourself, and of what utility are they in a common country school? If there are schools who want to pay for teachers who are posted in the above superfluities let them hire a 2d grade, and give Schools who don't want those superfluities a chance to hire teachers who are not posted in political economy. What we want is just this. we don't want to pay a teacher for a Knowledge of Astronomy, Geology, Geometry &c just because he happens to be qualified for those studies, and we have no use for them in the average school, when we ought to get teachers for fair reasonable wages who would teach as good a school and in many instances a better than the teacher with the high qualification.

This is dictated in a friendly spirit and for your respectfull consideration and you will find there is more truth than poetry in it than you think for

Yours Respect School Dist No ——

SLOJD IN THE WHITEWATER NORMAL.

MR. EDITOR: Having noticed the articles on Manual Training in the JOURNAL for the past few months, I suppose it may not be amiss to tell you what our Normal School at Whitewater is doing in that line. It is not my purpose to recount the history of the effort. Suffice it to say, that it had a very modest beginning, several years ago, and in 1886 received an appropriation of money from

the Board of Regents of Normal Schools. With this money five benches were fitted up with the common tools.

The work of the pupils has been along a line designed to make them self-helpful in their district school work. The motto of this department, as well as of all the other departments of the school, seems to be "The cultured mind and the skillful hand." The pupils are taught to saw and to plane to a line, and to square a piece of material. The ability to do this gives basis for making joints of various kinds, as open mortise and tenon joints, single and double mortise and tenon joints, half-dovetailed joint halved together, dovetail joints of one or more tongues, and miter joints of various angles.

The joining of materials by nails, screws, glue and by tongue and groove are illustrated everywhere. These exercises are then applied in the making of articles for school use. It is not however the design to manufacture merchantable articles. As illustrative of work done I will name some few things to be seen in various parts of the building: The reading room shows two convenient cases for magazines; the Primary department has an adjustable molding table and accompanying sand box, and two tables for kindergarten work. In the drawing room are a number of easels for crayon work, squares, triangles, hexagons, cones and pyramids. The geography room shows a paneled case for charts. The assembly room has a fine mounted picture of "noted Englishmen" in carved oak frame (the carving, though simple, is from the workman's own de sign). The physical apparatus room shows the results of the work in various applications of mechanical powers, galvanometers. induction coils, resistance coils, etc.

This work, though obligatory on puplils studying Physics, is taken up voluntarily by other students of both sexes. The young ladies, for whose benefit the work was in no small degree intended, after very brief experience, take it up as easily and heartily as any other work of the term, and frequently give extra time to it. * *

QUESTIONS FROM THE STATE EXAMINATIONS.

GENERAL HISTORY.

December, 1886.

1. What are the chief matters which render important the reign of Justinian? Its date.

2. Tell when and how the Moslems came into Spain, why they did not occupy France also, and how the Ommiades became established as independent rulers in Spain.

3. Explain briefly the feudal system.

4. Sketch the policy of Pope Gregory VII, and the quarrel with Henry IV over investitures.

5. What was the Hanseatic League, and why was it important?

6. How did the English come to be possessed of an Indian empire?

7. To what three men and what three wars is the liberation and unification of Italy chiefly due? Sketch the last steps in the process.

8. Tell briefly how the Second Empire in France rose and fell.

9. Show the principal results in the religious history of England from Henry VIII's effort to obtain a divorce from Catherine of Aragon.

10. What additions were made to Russia, (*a*) by Peter the Great, and (*b*) by Catherine the Great.

(Answer 3, 4, 6, 7, and 8, and any three of the others.)

GENERAL HISTORY.

June, 1887.

1. Give a brief sketch of the career of Alexander the Great.

2. How was the first Punic war brought on, and what were its results?

3. Trace briefly the career of Octavius up to the battle of Actium.

4. Sketch the stuggle about investitures between Hildebrand and Henry IV.

5. Outline the history of the third crusade.

6. What circumstances led to the granting of Magna Charta, and what were its chief provisions?

7. Explain the origin and results of the Wars of the Roses.

8. What led Henry VIII of England to separate from the Papacy?

9. State the causes and results of the Seven Years' War.

10. What were the chief causes of the French Revolution?

11. Give an account of the fall of the Third Empire in France.

12. Give some account of Garibaldi and the unification of Italy.

(Answer any eight of these questions.)

GENERAL HISTORY.

December, 1887.

1. Sketch the origin and chief events of the Greco-Persian wars, up to the battle of Platæa; or, Give an account of the confederacy of Delos and the age of Pericles.

2. Give an account of the Gracchi, and the movement in which they were engaged; or, Narrate the chief events which gave rise to the exclamation of Augustus, "Varus, give me back my legions!"

3. Outline the changes in the Roman government effected by Diocletian; or, State the causes and results of the Jewish wars of Vespasian.

4. Sketch the career of Mohammed; or, Sketch the westward spread of Mohammedamism, the origin of the Moors, and their conquest of Spain.

5. Give an account of Hildebrand and the struggle over investitures.

6. Give an account of the Ottoman Turks and their conquest of Constantinople; or, Give an account of the first English conquest of Ireland, of the establishment of the Ulster colonies, and of Cromwell's Irish policy.

7. Name in order the different forms of Government in France from the fall of Napoleon Bonaparte to the rise of the Third Republic.

8. Outline the events leading to the unification of Italy; or, Give an account of the English Reform Bill of 1832.

MATHEMATICAL SECTION.

THAT QUADRATIC PUZZLE AGAIN.

Howard Skinner, Berlin, calls attention to the following solution of our "quadratic" puzzle, (see JOURNAL OF EDUCATION for April) taken from *St. Nicholas* for May, 1880.

1. $x^2 + y = 7$.
2. $x + y^2 = 11$.
3. $x^2 + xy^2 = 11x$. (Multiply (2) by x.)
4. $xy^2 - y = 11x - 7$. (Sub. (1) from (3).)
5. $2x + 2y^2 = 22$. (Multiply (2) by 2.)
6. $xy^2 + 2y^2 + 2x - y = 11x + 15$. ((4) + (5).)
7. $(x + 2)\,y^2 - y = 9x + 15$.
8. $y^2 - \dfrac{y}{x+2} = \dfrac{9x+15}{x+2}$ (Complete the square, extract the root, transpose.)
9. $y = \left(\dfrac{6x+11}{2x+4}\right) + \dfrac{1}{2x+4}$

Whence $y = 3$, and $x = 2$.

At first glance this looks like a genuine solution of the problem by general principles, and we may admire the ingenuity shown in deducing the quadratic form. A closer inspection, however, does not increase our satisfaction with the results so laboriously secured. Briefly stated the process consists in multiplying the second equation by x and by 2 and subtracting the first equation from the sum of the products, thus securing equation (7), which is in form an incomplete quadratic equation. Why multiply by x; and especially by *two?* There is nothing in the given equations to suggest "two" rather than any other number. It will be found that if the first equation be multiplied by $y + 3$ and the second subtracted, the result is in quadratic form, and reduced, gives $x = 2$. That is, if *either* equation be multiplied by that unknown quantity which appears in its first power only, *increased by the supposed value* of that quantity, and the result diminished by the other equation, the remainder will be quadratic (in form), one of whose roots, if we have guessed correctly, is the corresponding value of the other unknown quantity. Why this is so we are as yet unable to determine, but granting it true, shall that be called a satisfactory mathematical process whose earliest steps require, as a necessary condition precedent, a lucky guess at the answer? Suppose $x = 2$; simple substitution will give $y = 3$ and $y^2 = 9$, hence the supposition is correct. As a means of verifying the correctness of the assumption that x equals two, this process is just as effective and incomparably superior to the other in brevity and directness.

It is interesting also to notice that if the author of the solution given above had used the *negative* root of equation (8) also, he would have obtained the cubic equation

$$x^3 + 2x^2 - 10x - 19 = 0.$$

This is just what will be obtained by substituting the value of y obtained from first equation, in the second, and dividing by $x - 2$. Hence no answers are obtained by either method, except such as are first correctly assumed. Of course, guessing is a perfectly legitimate process, and frequently very useful, as in dealing with these equations, but it furnishes very unstable foundations for a mathematical demonstration.

Again, what is wanted is a solution, by the methods and principles of quadratics, which will get *all* the answers, and be as applicable to equations containing "8" and "13" as to those having 7 and 11 in the second members.

STILL ANOTHER.

One of our correspondents throws the equations given above into this form:

$$y^2 - 9 = 2 - x.$$
$$y - 3 = 4 - x^2.$$

Then dividing the first by y the second reaches this result:

$$y + 3 = \frac{1}{2+x}$$

"How can this be?" The answer will apply equally well to several similar statements lately submitted for discussion.

If $y = 3$ in the above equation, the real form of the quotient is $\frac{0}{0} = \frac{0}{0}$ which, if true, hardly warrants us in putting $\frac{1}{x+2}$ for one quotient, and $y + 3$ for the other. Is $y + 3$ the *real* quotient, the only quotient which, multiplied by the divisor 0, will produce the dividend, 0? Why not $y + 4$? Why not 4? The evident truth is that any number whatever may be used as a quotient of 0 divided by 0; that is $\frac{0}{0}$ is indeterminate.

In a certain school algebra this innocent equation is slipped in among others of the first degree.

$$\frac{5x + 5}{x + 2} - 29 = \frac{6x + 12}{x - 2} - 30.$$

Any fair student who has had good teaching would transpose the 29 at once. If he then clears of fractions, he will get the answer with no trouble at all. If he be more alert and skillful, he will see that the second fraction $\frac{6x - 12}{x - 2}$ can be reduced to a whole number, 6. Of course this would be the better plan to follow in general, but in this case the resulting equation is

$$\frac{5x + 5}{x + 2} = 5, \text{ or } \frac{x + 1}{x + 2} = 1,$$

an evident absurdity. The fraction $\frac{6x - 12}{x - 2}$, happens in this equation to be $\frac{0}{0}$, (since $x = 2$,) and instead of being equal to 6 is in reality equal to $5\frac{1}{4}$. The serious objection to that equation, introduced as it is long before any dis-

cussion of $\frac{0}{0}$, is that the wide-awake pupil, who takes advantage of every opportunity to abridge his work, will fall into a snare, while the duller pupil, who plods through the weary formula, is rewarded with success.

A PROBLEM IN BUSINESS ARITHMETIC.

The following is a copy of an actual business note, which presents some interesting features. It was paid March 27, 1888, to the satisfaction of all the four parties interested. The amount due the holder was reckoned by the rule laid down by the United States Supreme Court. The troublesome question was the apportionment of the debt among the three brothers signing the note. Who will send an accurate solution ot the problems involved?

($4,000.)

PLATTEVILLE, Wisconsin, Feb. 27. 1885.

On or before Nov. 30, after date we jointly and severally promise to pay G. H., or order four thousand dollars with interest at ten per cent. per annum from May 1 until paid.

Value received.

A. B.
C. D.
E. F.

The note is to draw interest at the rate of 8 per cent. after Nov. 30, 1885.

(On back.)

Received,	Oct. 20, 1885—	$1,5000	from three signers jointly.	
"	Dec. 19, 1885—	927 40	" " " "	
"	Sept. 18, 1886—	400	" E. F.	
"	Nov. 9, 1886—	600	" C. D.	
"	Feb. 11, 1888—	20	" E. F.	

How much do each of the three signers owe March 27, 1888?

T. B. PRAY.

WHITEWATER, WIS.

IN THE SCHOOL ROOM.

SOME TEACHING DEVICES.

IN LANGUAGE WORK.—In my principal's room I observed, a few weeks ago, a happy way of conducting written spelling, which, in this case, became a language lesson. The lesson included definitions. The teacher, sometimes, gave the definition, withholding the word, and then told the pupils to write the word she had defined. She then called upon some scholar to define, in the same way, another word for the class to write. She also gave some sentence containing a word of the lesson, and told the pupils to pick out that word to write. She then asked the pupils to form similar sentences for the class. It required a

good knowledge of the lesson for the children to select in each case the right word. It also strengthened their power of attention, a power that has been said to mark the difference between the great man and those about him.—*Ex.*

IN PRIMARY READING.—I visited a primary room, and received a good lesson in enunciation. The teacher had a little class of beginners before her, and when they gave a word, the final consonant was heard distinctly. In the new word she taught them it was emphasized. One thing we cannot be too careful about in the beginning is giving to each word its full sound, dropping the final consonant or running two words together, where the final sound in one is like the beginning sound in the next, should be guarded against. Little folks are as prone to that habit as grown people, and to avoid it is one great object to be gained in the primary room.—*Colorado School Journal.*

IN SPELLING.—A teacher in Ohio writes that she had occasion not long since to visit a primary school, where most of the pupils could spell in two or three syllables. The teacher began at once, as some often do, to apologize for the disorder in her room, and to mention her trouble in interesting her pupils. She was young and inexperienced, and the visitor thought it her duty to give a specimen of her experience in waking up an interest, and training the faculty of observation. Being invited to speak a little, a thing she was not much qualified to do, she began by asking, "How many in this room can spell?" Nearly every hand was up. She then began giving common words, feeling her way at every step, rising higher in point of difficulty, intending to stop on some suitable word. The word "grocery" soon occurred. Here she paused, and asked, "what's a grocery?" The answer was, "A place where things to eat are kept." Next, tell what they are. One boy exhausted his stock of knowledge, another added to it, and so on the excitement ran until the wakening up become very interesting. After a short pause, one little fellow says, "Hominy." "Ah, yes! What's hominy?" "Corn pounded in a mortar." "And what's a mortar? Not what plasterers use?" "It's a hollowed out thing. You can see one at the drug store." "Yes, I know now. But what do they pound the corn for?" "To take the hulls off." Thus she could have gone on indefinitely but the exercise is only to break the monotony, and cultivate habits of observation and memory. As she was leaving the village, she saw squads of children inspecting grocery stores, and each one endeavoring to find something the others had not seen. The lady teacher practiced her pupils in this way, and never more complained of her pupils being dull. They learned to look at things, and spell their names.—*Educational Journal, Toronto.*

IN GEOGRAPHY.—I saw a game of cities, not long ago, that pleased me very much. It was like the well known game of authors, only a country and three or four of its important cities formed a book, instead of an author and some of his works. On each card of the book was an outline of the country, with the cities mentioned, located upon it. Only enough rivers were drawn for the location of the cities; the eye was not confused by details. It occurred to me, that

a pupil could make such a game for himself and that it would furnish excellent busy work for a grammar school. In almost every class there are some bright pupils, who learn their lessons much more readily than the majority of the class, and consequently have the temptations to mischief that idleness affords. Possibly the manufacture of such a game might please the fancy of such scholars, and furnish legitimate and instructive occupation. I saw a device at a study class one evening that I thought would be helpful in a school-room in teaching pupils, the sometimes difficult lesson, attention. The teacher gave the class a list of questions, which they copied, and which they were to answer at the next meeting. In the reading that followed, given by the teacher, the attentive listener found the answers to many of the questions. It was a taste of the game of hide and seek, for the listeners sought for the answers that were sometimes partially concealed in the reading.—*Popular Educator.*

IN HISTORY.—My plan for a recitation in history is to see who can write the most about the lesson in five minutes. They must write at least forty words, and often it reaches three times that. Criticise spelling, capitalization, punctuation and language.—*W. H. Andrews.*

IN ARITHMETIC.—It is found that most children take up more readily the combinations in multiplication and addition than those in subtraction and division. Some are very slow in comprehending that these processes really exist in pairs, and not in independent abstractions for the torture of the infant mind. The facts of the case will be more easily fixed in the understanding if the processes are constantly associated both in oral and written work; thus the simple multiplication 5×6 being given, the pupils develop it in this manner: $5 \times 6 = 30$; $6 \times 5 = 30$; $30 \div 6 = 5$; $30 \div 5 = 6$; ⅙ of $30 = 5$; 1-5 of $30 = 6$. Again a combination of two numbers, as $8 + 9$ is written in this way: $8 + 9 = 17$; $9 + 8 = 17$; $17 - 8 = 9$; $17 - 8 = 9$. Examples based upon subtraction and division are similarly amplified; this sort of work seems to give the children the feeling that they are doing something complicated, and in consequence the work is much enjoyed. Examples placed upon the black-board in Arabic numbers may be worked out upon the slates in Roman numerals.

A BUNCH OF EXERCISES.

IN LANGUAGE.—Combine these eight sentences into one sentence: An owl lived in a tree. He was a white owl. He was large. He lived in the hollow of the tree. The tree was old and rotten. It was an oak tree. It stood on top of the hill. The hill was back of our house.

IN GRAMMAR.—1. Write sentences in which you use a noun or pronoun:—(*a*) as the subject of a verb; (*b*) to identify the person or thing represented by the subject; (*c*) to complete a copulative word; (*d*) in apposition with a noun or pronoun used to complete a copulative verb; (*e*) to represent the person addressed; (*f*) as an exclamation, or to call attention to a subject to be spoken of

later; (*g*) with its modifiers to express a circumstance accompanying an action, or to state the reason for the action; (*h*) as the object of a verb; (*i*) as the object of a verbal word; (*j*) as the object of a preposition; (*k*) in apposition with a noun or pronoun in the objective case; (*l*) like an abverb to modify a verb by showing how far, or for how long, something was continued; (*m*) to show to whom or for whom a thing is done.

IN SPELLING.—Beer often brings a bier to man,
Coughing a coffin brings,
And too much ale will make us ail,
As well as other things.
The person lies who says he lies
When he is but reclining;
And when consumptive folks decline,
They all decline declining.
A quail don't quail before a storm,
A bough don't bow before it,
We cannot rein the rain at all,
No earthly power reigns o'er it.
A dyer dyes awhile, then dies;
To dye he's always trying,
Until, upon his dying bed,
He thinks no more of dyeing.

IN ARITHMETIC.—1. A farm laborer, who is to receive $1.35 a day, begins work on Saturday, July 27, and works until the evening of November 6. How much should he receive?

2. Find the value of a pile of 12-ft. lumber 8 ft. high by 4 ft. 7 in. wide at $21.30 per M.

3. How far will the horses travel in reaping a square 10-acre field with a reaper that cuts a 4-ft. swath?

4. The estimated value of a school district is $450,000. How many mills on the dollar will have to be levied to raise a tax sufficient for $1,200 school expenses?

5. A wheat field of 37 acres will average a yield of 22 bushels to the acre. What is the standing grain worth if wheat is worth $1.25 a bushel and it costs $1.60 an acre to prepare it for market?

IN COMMERCIAL FORMS.—1. Write a promissory note. 2. Write a note payable to *bearer*. 3. Write one payable to *order*. 4. One payable to an individual only. 5. Write a demand note. 6. Write one without interest. 7. Write one bearing the legal rate of interest. 8. Write a negotiable note and endorse it. 9. Write a note specifying time and place of payment. 10. Write a joint note. 11. Make out a bank check to your teacher. 12. Write a draft upon some bank; a time draft; a sight draft.

HISTORICAL CONUNDRUMS:—

"Shrewd and miserly, witty and wise,
He drew down fame by a string from the skies."
"Amid many a nation and peril he strayed,
Saved once by a compass, and once by a maid."
"Gold armor and retinue all could not save,
His mighty discovery was turned to a grave."
"He wrote the words in fiery hour,
That freed the nation from foreign power."
"He read a great poem before a great fight;
He climbed up a cliff and died on the height."

HOW NOT TO DO.—Why, a boy about sixteen years old got into my carriage the other day and as we went along tried to learn a lesson about a pump. He kept saying over, 'A pump is an apparatus for drawing up water.' On inquiry I found there was absolutely no apparatus used! The teacher sat in his chair and asked questions out of a book!

IN CLASS MANAGEMENT.—A teacher writes:—For some terms back I have used the following device as a substitute for "calling the roll" from a class-book. I have each pupil's name written upon separate cards; these I hold in my hand, and when the lesson is to be a "recitation" merely, or, when I wish to call out individual opinions, I use these cards with the following results: All must be ready, for the question is given before the card is turned. There is no favoritism, and no neglect of pupils. No time is lost in determining whom to call, and thus the whole attention of the teacher can be concentrated on the lesson.

OUR BOOK TABLE.

THE MIND OF THE CHILD.

PART I—THE SENSES AND THE WILL, by W. Preyer, New York; D. Appleton & Co.; 346 pp., $1.50.

Prof. Preyer's book, a translation of which constitutes this latest addition to the "International Educational Series," quickly passed through two editions in Germany, and has become generally recognized as one of the most important contributions to the study of infant psychology. The basis of it is observations made by the author upon his own infant; this is supplemented by information obtained from other observers and by correspondence. Its importance is of several sorts. To begin with, it applies scientific principles to a subject usually treated in a most vague and general way. There is a minuteness of observation, and a resort to experiment to test interesting questions which arise, such as gives assurance that positive data are gathering for answering the disputed points of infant endowment. Discussing, for example, the question of heredity,

Prof. Preyer writes: "Heredity is just as important as individual activity in the genesis of mind. No man is in this matter a mere upstart, who is to achieve the development of his mind through his individual experience alone; rather must each one, by means of his experience, fill out and animate anew his inherited endowments, the remains of the experiences and activities of his ancestors." We find the basis for such a judgment in the detailed study of his volume, which Prof. Preyer justly describes as deciphering "the mysterious writing on the mind of the child." His book then, further, is a guide to the study of infant mind. Not every one is ingenious enough to discover what are the great questions to be asked and then answered by observation; nor even to devise means of satisfactorily determining, in the mental twilight of the infant, what is the real significance of phenomena observed. Finally, the treatise, in studying the earliest development, lays the basis for a more exact and rational pedagogy than we can boast at present. He traces in detail the development of each of the senses and of the will, showing how from simple to complex by constant integration, all the endowments of the little being are correlated and built up into that complex whole which is the basis of the mature life. Prof. G. Stanley Hall says of this treatise: "Among all the nearly fourscore studies of young children printed by careful empirical and often thoroughly scientific observers, this work of Preyer is the fullest, and on the whole the best."

—WORDSWORTH'S PRELUDE, edited with notes by A. J. George, (D. C. Heath & Co., 322 pp.,) puts in form and accompaniments for teachers one of the most characteristic productions of one of the great formative minds of English literature. It would, indeed, be possible to cull from Wordsworth's poems a collection of passages which would more perfectly represent him all round, and explain the effect of his methods in English verse, but it would be impossible to find any single poem to do this so well as the prelude. It is indeed a poet's autobiography in a poem. The editor has furnished a preface and sufficient notes to make the thorough enjoyment of the poem possible to any intelligent student.

—BUTLER'S ELEMENTARY GEOGRAPHY, by Jacques W. Redway, (E. H. Butler & Co., 132 pp.,) contains several interesting features. One of the most encouraging is that the text is prepared to be read, instead of memorized, and is in general adapted to the intelligence of children. It is interesting and connected, combining history and geography. For those who prefer the old plan of making a "hash" of the text with questions corresponding there is appended to each chapter a "Review Lesson," in which the matter is thus presented. The illustrations and maps are admirable for their execution and their adaptation to the wants of learners. There is also presented at the close of the book a chapter on moulding board exercises, in which are photogravures of relief maps of the continents, intended to aid the teacher in directing the moulding, and in themselves most admirable means of studying relief forms. Whether one uses the moulding board or not the directions will be found exceedingly

valuable aids to the proper method of teaching physical features. It seems to us an exceptionally excellent text book of elementary geography.

BUTLER'S COMPLETE GEOGRAPHY, by J. W. Redway, (E. H. Butler & Co.,) 137 pp., attracts attention by the following, among other excellent features: the presentation of physical geography as an introduction to the political, is more extensive than usual; the foot-notes are very numerous, and contain much valuable matter related to the text; the illustrations are abundant and well selected; the photogravure relief maps are more satisfactory than anything of the kind we have seen elsewhere; the maps are excellent and the treatment of map drawing by projections much more satisfactory than the arbitrary diagram plan so long popular. The book merits the attention of teachers of this branch.

—GRAMMAR SCHOOL READER, (Interstate Publishing Co., 318 pp.,) has the unusual two column quarto form, and is made up of stories. These are usually excellent in character and sure to interest young readers.

—HISTORY AND SCIENCE READER, (Interstate Publishing Co.,) is of the same form as the above, and contains the "Magna Charta Stories," edited by Arthur Gilman, and other historical sketches, with short science papers by Ernest Ingersoll, Miss Harris, and others.

—MCGUFFEY'S ALTERNATE FIFTH READER, (Van Antwerp, Bragg & Co., 304 pp.; 50 c.,) represents in its selections nearly one hundred authors, most of them classics, and the selections are mostly typical and valuable as means of cultivating a sound literary taste, expanding knowledge and extending the pupils' vocabulary. The notes and introductions are brief and to the point.

—ELEMENTS OF ENGLISH, by M. W. Smith, (Van Antwerp, Bragg & Co.; 232 pp.; 60c.) contains a brief history of the English language, followed by word studies, derivations, synonyms, a sketch of prosody, essentials of grammar, figures of rhetoric and elements of criticism.

—PRACTICAL LESSONS IN THE USE OF ENGLISH, by Mary F. Hyde, (D. C. Heath & Co.; 226 pp.) is a language book for grammar schools. It teaches little of the theory of language, and relies upon practice for skill, rather than upon intelligence. It is logical, therefore, in providing drills in everything—letters of all sorts, bills, receipts, notices of public meetings, advertisements, telegrams, etc. This is the modern notion, but we like better the old one of developing intelligence and letting the person alone to find out some small things for himself.

—No. 35 of the *Riverside Literature Series*, (Houghton, Mifflin & Co.) contains the third part of the TALES OF A WAYSIDE INN, which can now be had in this convenient form in three numbers, 15 cts. each.

—LESSONS IN GEOMETRY, by G. A. Hill, (Ginn & Co., 182 pp.; 75 cts.) is easier than the author's "Geometry for Beginners," being adapted to pupils 12 years of age. It recognizes the absence of the geometry imagination, and the inability to put together even the simplest links of reasoning so that they shall form a logical chain. Geometric models are studied at the start, and the imagination is exercised by asking questions which the learner can answer by re-

flecting on what he has seen. The first steps in consecutive reasoning are not taken till considerable time has been spent in the inductive study of form and magnitude. And the training in logical deduction is limited mainly to the laws of equal triangles and a few of their simple applications.

—THE NEW PRACTICAL ARITHMETIC, by W. A. Shoemaker and Isabel Lawrence, (D. Appleton & Co.; 404 pp.) presents a novel arrangement, which the authors call "the order of development in the mind of the pupil." This means that the first chapter is devoted to the study of the nine digits; the second to numbers from 10 to twenty, the third to one hundred, and so on. Denominate numbers and measurements are first introduced incidentally as affording problems, and later systematically; fractions and business arithmetic have a similar treatment. The book abounds in practical examples, is thoroughly inductive in treatment, and has "the science of arithmetic" as an appendix.

—OLD SOUTH LEAFLETS, (D. C. Heath & Co., 5 cts. each) is a valuable collection of documents illustrative of the history of the United States, as The Constitution, Articles of Confederation, Declaration of Independence, Washington's Farewell Address, Magna Charta, Charter of Massachusetts Bay, Fundamental Orders of Connecticut, Franklin's Plan of Union, Ordinance of 1787, etc., each forming a separate brochure. —THE TABLE IS SET, (C. W. Bardeen) is a little school comedy to occupy not more than half an hour, 15 cts. —ACADEMIC TRIGONOMETRY, by T. M. Blakeslee, (Ginn & Co., 35 pp.; 30 cts.) aids memory by analogies in getting elements of plane and spherical trigonometry. —HELPS TO THE INTELLIGENT STUDY OF COLLEGE PREPARATORY LATIN, (Ginn & Co.; 43 pp.) contains references to histories bearing upon subjects read, to criticisms, to editions, translations, etc. —GERMAN EXERCISES, by J. Fred. Stein, (Ginn & Co.; 118 pp.) contains well selected and arranged material for translation into German, with necessary notes and suggestions. —THUCYDIDES BOOK V, by Harold N. Fowler, (Ginn & Co.; 213 pp.) has the general characteristics of the admirable "College Series of Greek Authors," of which it is the latest issue.

—The copyright discussion is developing many interesting facts, among others that the British "pirate" of American books is a shade worse than the American "pirate" of English books. As an illustration take the following: Gen. Lew Wallace, when last in London, went into Warne's book store and bought a copy of his own book "Ben Hur." Finding changes in it he called for the head of the firm, and said to him: "I see you have changed my title and written an entirely new preface and signed my name to it." The publisher hesitated and stammered out something about improving it. "And have you taken any other liberties with my books?" asked Mr. Wallace; and he was told that they had left out the story of Ben Hur and made a few minor changes. Dr. Holland had a similar experience, and indeed the practice seems common among the publishers of the "libraries" in Great Britain.

—D. Lothrop & Co., Boston, announce a very promising series of graphic and vigorous histories under the title, "The Story of the States." They are to

be prepared by writers of recognized literary ability—to be fully illustrated with designs by L. J. Bridgman, made after careful historical studies, and to make handsome octavo volumes, at $1.50 each, retail.

—The same publishers offer prizes ranging from $5 to $500, and amounting in all to $2,000, to persons contributing the most suitable articles for their monthly *Wide Awake*. The prizes will be awarded by a committee of literary gentlemen. Details will be found in *Wide Awake*.

—A MANUAL OF GERMAN PREFIXES AND SUFFIXES, by J. S. Blackwell, (Henry Holt & Co.; 137 pp.) aims to be useful to the student in his efforts to master the German vocabulary. It is from this point of view that the different and suffixes prefixes are studied, and we have no doubt that the volume will prove a valuable adjunct to this work. It has been conscientiously and skillfully prepared.

—POUR APPRENDRE A PARLER FRANCAISE, par C. Montonnier, (Henry Holt & Co.; 191 pp.) seeks to train the learner, so far as a book can, in the art of talking French. It is all in the French language, and each lesson consists of three parts, a fable, story or literary extract, a commentary upon this, and notes and questions. The plan, therefore. affords to teacher and pupil abundant material for practice, upon which, with study of grammatical principles, success depends.

—FIRST GERMAN READER ON THE CUMULATIVE METHOD, by Adolph Dreyspring, (D. Appleton & Co.; 112 pp.) presents a continuous narrative of child-life, in plain and simple language, with pictorial illustrations, all so arranged as to develop an effective German vocabulary, and fairly beguile the young reader into a knowledge of the German language.

—SEASIDE AND WAYSIDE. No. 1, by Julia McNaire Wright, (D. C. Heath & Co.; 87 pp.) is in many ways a fascinating little book. It repudiates the idea that the first reading book must not tell anything new, and introduces the youngster who has hardly mastered his a, b and c's, at once into the mysteries of, insect and animal life. Why not? Is not a book all the better because it tells you something new and worth knowing? The little stories are admirably contrived, and not more difficult than those of ordinary primers, but in every way more inteesting. Miss Wright may be truly said to have invented a new kind of first reader, and one sure to be popular. It will touch the child all round, giving him a real interest in things while teaching him to read.

CHEERFUL ECHOES FROM THE NATIONAL KINDERGARTEN, by Louise Pollock, (Henry A. Young & Co., Boston; 72 pp.; 50 cents) contains a very excellent collection of kindergarten songs, words and music, suited to children from three to ten years of age. Both words and music are new, and the book is a real contribution to kindergarten literature.

—INTRODUCTION TO CHEMICAL SCIENCE, by R. P. Williams, (Ginn & Co.; 216 pp. 90c.) commends itself as a manual for high school classes. It is a small book, dealing only with essentials, direct, clear and accurate, instructive in method and very skilfully arranged. It has been tried in the class room and its adapta-

tion to high school pupils well tested. It is of course based upon elementary laboratory work, and in the arrangement of experiments and directions for work will be found to meet the wants of teachers who have little time to devote to the subject and only limited laboratory experience.

—PRACTICAL LESSONS IN THE USE OF ENGLISH, by Mary F. Hyde, (D. C. Heath & Co.; 116 pp.) is the first of a two-book series, and is designed especially for primary scholars. It is so arranged as to develop the pupil's thought and power of expression together, and force him early and easily to writing letters, compositions and business forms.

—MCGUFFEY'S ALTERNATE SPELLING BOOK, by W. B. Watkins, (Van Antwerp, Bragg & Co.; 96 pp.; 12 cents) is skilfully arranged for teaching the origin, structure, sound and meaning of words. It is so classified, and provided with notes and suggestions, as to simplify and greatly reduce the work of the teacher.

MAGAZINES AND PAMPHLETS.

A striking and valuable feature of the June *Scribner's* is the first of the promised series of articles on Railroads. This is on the building of a railroad, and is finely illnstrated by some forty beautiful engravings. Stanley Hall contributes a study of the psychology of childhood under the title "The Story of a Sand Pile." Stevenson writes delightfully of "The Gentlemen in Fiction." The paper on Cardinal Newman will also attract attention.—Mr. Warner continues his account of Chicago in the June *Harper's*. The illustrated article on Kansas as "The Central State" is also an excellent study of the West. Delightful are the "Sketches of Capri," and "Impressions in Burnoose and Saddle." "London as a Literary Center" is continued with nineteen portraits.—Some pages of Preyer's "Senses and the Will," "Education and the Employment of Children," an argument for weeding out of the schools at an early age all who do not show marked ability; "Spencer's Criticism on the Duke of Argyle," and "Animals as Modified by Environments," are some articles in the *Popular Science Monthly* which will be especially interesting to teachers.—*Wildwood's Magazine* is a new and very attractive candidate for popular favor. It is devoted to out-of-door recreation and offers fifty-two large two column pages of matter related to hunting, fishing and athletic sports. The illustrations are excellent and numerous, and the table of contents varied. It is published at 166 LaSalle St., Chicago, at $2 per year.—*Littell's Living Age* successfully maintains its position as the leader of the eclectic publications. It is remarkable what a uniform character, and that of uniform excellence, has been maintained by this publication from the very beginning. The critical appreciations of Matthew Arnold in it follow close upon his last article on America, and indicate very clearly how powerful an influence he has exercised upon his time.

NEWS AND NOTES.

—The circular of the Wisconsin Summer School for Teachers will be found in this number. Although the issuance of it has been unavoidably delayed until a late day, there are yet abundant evidences of interest in the matter, and a good attendance may be anticipated. The sessions of the school will be held in the new Science Hall of the University and in the chemical building, affording facilities much greater than were available last year. The sessions, beginning July 10, will hold over the state examintaions, July 30 and following, so that those desiring to attend both will be able to do so without extra expense. The courses in Psychology and Pedagogy, as well as those in Botany, will be longer and fuller than last year; a course in Zoology has been added with arrangements for laboratory work in physiology. Latin is not included in the program for this summer. It is hoped that some features of great interest not announced on the program will be offered those in attendance. The experience of last year indicated a tendency to undertake too much work, which it is hoped will be avoided this year. Two branches, or at most three, should afford all the work one can hope to do successfully; but these well chosen and wisely pursued may afford inspiration and help enough to make the teaching of the whole year more profitable.

—Supt. Severin, of Calumet County, distributes to his teachers copies of the circular of the State Board of Health on "The Prevention of Sickness," recommending the study of it to them.

—"Arbor Day" has become an important anniversary in many of the states but seems to have found small favor in Wisconsin. For this reason we note with the more satisfaction its observance this year at the Whitewater Normal School. A number of trees were planted in the school yard and a very interesting and appropriate program of rhetorical exercises was observed. Ought not the anniversary to be introduced among us? We are cutting down our forests rapidly, to be sure, and in many parts of the state a tree is simply the possibility of so much lumber, or an incumbrance to land which might make good farms. But this will all soon be changed. Even now an appreciation of the beauty of trees would lead to the improvement of many of our towns by setting them out; and certainly it is humanizing to have the associations of youth linked with a love of such objects.

—Subscribers do some very strange things. One does not like even to tell of those who allow the JOURNAL to come to their address for two or three years and then try to repudiate responsibility because they only subscribed for one year. These we urge to ascertain what the law provides in such cases, and try to cultivate a better conscience. Others move away and leave an unsettled record. After a time the postmaster or some friend sends word that they have gone—somewhere. It would be a severe but just measure to publish the names of such. There are many of them. Others do not recognize that it costs money to pay for paper, printing and mailing, and never pay in advance, nor until they have been notified many times. Occasionally one sends us money without sending any address; or says "change my address to" so and so, without stating *from* what place; and so on. There are two fundamental rules of morality

in this matter: 1st, pay in advance; 2d, notify us promptly when you wish the paper stopped or address changed.

—Prof. Stump, of the Whitewater Normal School, has been offered a very desirable situation as science teacher in the State Normal School at Oswego, N. Y.

—The *School Journal* formerly published at Elkhorn, has passed into the hands of the Midland Publishing Co., and is now issued at Madison. By arrangement with the publishers we are able to furnish that paper with the *Journal* for $1.75 per year.

—The tenth volume of the collections of the Wisconsin Historical Association has just been issued. It contains a full index of the series up to the present time. Among the interesting papers we notice that by Dr. Draper on "Autograph Collections of the Signers of the Declaration of Independence," which shows that one of the six extant sets containing fifty or more letters is found in the library of this society. The greater portion of this volume is occupied with papers relating to the Black Hawk war and the early French forts in Wisconsin. This is the last volume to be issued under Dr. Draper's editorship, and the first from Secretary Thwaites may be expected to follow soon.

—The Reedsburg high school has added to its library seventy-three volumes purchased with the proceeds of the lecture course maintained last winter.

—Supt. Lyons, of Fond du Lac county, says of his spring institutes:—"The average age of those in attendance is 21 years, 4 months, but deducting the large class of young members who never taught, the average age of teachers in actual service will approximate 24 years, indicating a degree of maturity unusual for district school teachers. Only 24 of the entire number received their preparation wholly from district schools, and these are mostly either teachers who entered the service before higher schools were conveniently accessible, and have since demonstrated their right to remain, or pupils from the district schools who have no intention of teaching. Of the remainder 16 have attended colleges, 84 normal schools, 83 high schools and 19 academies. In the number of those who taught are 6 first grade teachers, 12 second grade and 126 third grade. Unfortunately a number of our strongest teachers, especially males, were absent, as they habitually are, from all our educational gatherings. That these teachers do better work in the school room than many who attend is not disputed, but it is open to question whether they take the right attitude or manifest the proper spirit toward the work in which they are engaged."

—The Colorado *School Journal* says of the National Educational Association:—"In the proceedings of the meeting at Chicago, one finds the record and residence of upwards of nine thousand members. A little observation as to what states make up the larger part of this association may be indicative of where the heart of the great public school force of the country lies. Two states, Illinois and Iowa, have one-half the entire membership; Kansas, Nebraska, Missouri and Minnesota added, comprise about two-thirds of the names. The great state of Pennsylvania sends 108 members, while unadmitted Dakota sends 149, of the 9,000, New York, the Empire State occupies the twelfth place in rank, on the basis of numbers, while Massachusetts, miles farther from the meeting-place, stands tenth, ranking next to the upper valley states. The conclusion

must be that clustered round about the upper Mississippi is a population that destiny intends for the powerful and progressive people of the country. The older and more populous states will be forced to recognize this fact."

—The courses of historical lectures coming into vogue in some of our larger cities are an educative influence of great value, especially in the way of developing patriotism and the civic virtues. The pioneer was the Old South Course in Boston. In Chicago the Manual Training School has presented such a course for young people with marked success. Indianapolis also had a course of twelve lectures which was exceedingly popular. During the winter there has been a similar course in Madison, devoted to the history of the North-West, and the Unitarian church has been filled to overflowing with interested audiences. The lectures are free, maintained by the Contemporary Club. Six have been presented, as follows: The first was by Professor A. O. Wright on "The Discovery of the North-West," the subsequent lecturer being as follows: "French Occupation of the North-West," by James D. Buter, LL. D.; "The Ordinance of 1787," by Frederick J. Turner; "The Division of the North-West into States," by Reuben G. Thwaites; "Commonwealth Builders of the North-West," by Frank A. Flower; "The Position of the North-West in General History," by Professor William F. Allen. The work might be readily extended to smaller cities, and maintained by clubs, schools or general contributions.

—In the program of the meeting of the Calumet county Teachers' Association for May 26 the following fresh and interesting topics appear: The thermometer; The Use of the Blue Book; How I got my German pupils to use the English language; History of Calumet county; The teacher as a member of Society, etc.

—The Sauk County Association met May 19, and had, as usual, a very profitable session. A new feature was topics for general discussion. Such as How to use the school library; How to improve relations between country and high schools; How to inculcate patriotism, etc.

—A circular from the office of the Milwaukee city Superintendent explains how to apply for situations, qualifications, time of examinations, manner of appointment, etc. In it is contained a full explanation of the new plan of a reserve corps of teachers, to which reference is made in the letter of our Milwaukee correspondent.

—It is gratifying to be able to state that the loss of the Ft. Atkinson school was not so great by the fire as at first reported. The walls of the building are in good condition, and the work of reconstructing the building will be commenced at once. Wings will be added for hallways and other purposes, the high school room, laboratory and recitation rooms will be enlarged and many conveniences added. When completed the new building will be worth $25,000, and in architectural design and arrangement will be greatly superior to the one destroyed.

—The last circular of the committee of arrangements for the National Association: The committee on hotels and accommodations anticipate a very large attendance at the coming meeting of the National Educational Association in San Francisco, July 17 to 20. In order that we may properly receive our thousands of visitors, it is advisable that we should have as many as possible booked before they arrive. To this end we should be informed at once

of all parties being made up, together with the numbers of ladies and gentlemen composing them, the kind of accommodations wanted, and the probable date of arrival. There is danger that our eastern friends will overlook the fact that it takes two weeks to send a letter to San Francisco and get a reply. As the arrangement of the details of such business usually requires the exchange of more than one letter, it will be seen that there is no time to lose.

—The Lake Geneva *Herald* speaks as follows of the high school exhibit in that city: "The plan Prof. Gould has adopted of an annual public exhibition of the drawings, papers, etc. of the scholars, is a most valuable one, for it makes the pupils very careful in their work and it adds not a little to the interest, because they know that their work will be compared and commented upon by a large number of parents. The geographical papers were especially good, some of the maps looking more like work of experienced draughtsmen, rather than school children. The business paper, such as written receipts, notes, bills, checks, etc. were also praiseworthy and showed the results of continued practice and patient teaching. The schools of the city took the first prize in their exhibit of papers at the National Teachers' Convention last year. The exhibit then was good, but that of this year in every room showed considerable improvement.

WILL YOU GO TO SAN FRANCISCO?

The next annual meeting of the National Educational Association will be held in San Francisco, California, July 17th to 20th. Very favorable excursion rates will be made from Chicago and all other points on the Chicago, Milwaukee & St. Paul Railway, with choice of routes via Omaha and Kansas City in going and returning. Special excursion rates will be made from San Francisco to all points of interest in California, and to Alaska and the Sandwich Islands.

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If you are desirous of securing information relative to the journey, please address, for particulars, A. V. H. Carpenter, General Passenger Agent, Milwaukee, Wis., or A. F. Miller, Assistant General Passenger Agent, 93 Clark street, Chicago, Ills.

—The Passenger Department of the Union Pacific, "The Overland Route," has just gotten out as an advertisement what is known as the Switchman's puzzle, capable of solution in ten moves. It fascinates all who try to solve it and bids fair as a novelty to surpass the great 13-14-15 puzzle that created such a craze several years ago. Send 10 cents postage to J. S. Tebbetts, G. P. and T. A., for one of of these interesting and entertaining puzzles.

—The Passenger Department of the Union Pacific, "The Overland Route," has gotten out a fly-bill to call attention to the summer resorts along the line of this railway. It is a good bill, and tourists, pleasure seekers, sportsmen and fisherman should apply at once to J. S. Tebbetts, General Passenger and Ticket Agent, Omaha, Neb., for information in regard to the points of interest along the line, before deciding where they will spend the summer season, or vacation holidays.

—The management of the Union Pacific, "The Overland Route," made a change in the running of its local train Sunday, April 29th, that will be hailed with delight by the residents of "The Omaha and Republican Valley." This change is made in conjunction with the St. Joseph and Grand Island branch, making the leaving time of No. 7 at Council Bluffs at 8:40 a. m., and Omaha 9:00 a. m. Arriving at Valley at 10:25 a. m., it connects with he train arriving at Valparaiso at 11:56 a. m , and at Stromsburg at 2:50 p. m. Here it connects with the St. Joseph and Grand Island train, via McCool Junction and Fairfield, arriving at Alma at 10 p. m. The train running opposite leaves Alma daily at 5:30 a. m., arriving at Stromsburg at 12:00 p. m., Valparaiso 2:30 p. m., and Valley 4:15 p. m., connecting with No. 8 arriving in Omaha at 5:50 p. m., and Council Bluffs at 6:10 p. m., connecting with Eastern trains. A change in the running of trains between Lincoln and Valparaiso, enables passengers leaving Alma in the morning to reach Lincoln at 3:40 p. m. Leaving Lincoln at 11:35 a. m., they connect at Valparaiso with the Alma train, arriving there at 10:00 p. m.

Good time and through chair accommodations, make this the most desirable line running into this portion of Nebraska. Passengers between Alma and Lincoln will be obliged to make only one change and that at Valparaiso. J. S. Tebbetts, General Passenger and Ticket Agent.

GARFIELD BEACH, on the Great Salt Lake near Salt Lake City, on the Union Pacific, "The Overland Route," will be formally opened on Decoration Day, May 30th. Ample accommodations have been provided. and the Pacific Hotel Company will have charge of the hotel accommodations at this famous resort under the supervision of the Union Pacific Railway. No pains or expense will be spared to make this THE summer resort of the West. It is only eighteen miles from Salt Lake City on the Utah and Nevada branch of the Union Pacific. Trains will be run at frequent intervals daily between Salt Lake City and the Beach. Cheap trains, good baths, and excellent meals will be among the attractions.

THE library chair used for many years by Dr. Mark Hopkins has been presented by his family to Mills College, California. Dr. Mills, of that institution, was a pupil of Dr. Hopkins.

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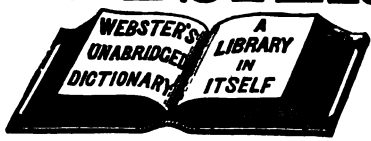

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WISCONSIN

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TRUTH IN FICTION.

Whoever will examine his prevailing impressions after reading a novel which has profoundly affected him will find, we think, that it is the notion of its truth and not of its art which is strongest with him. To pronounce otherwise is to say that the frame is more important than the picture,—that a man who uses good language but conveys no thought is a fine orator—in short, that method and not matter is supreme.

We often hear that a moral purpose is a blemish in a novel, that it should be simply a work of art, and if perfect as such is its own *raison d' etre*. Yet a novel purports to be a transcript of human life, hence truth must be its first desideratum; and while no man lives simply to be a lesson to his brother-man, his happy rewards and just retributions being the natural results of his acts; the brother-man may learn as much from these vicissitudes as if their purpose were that and no other, and the highest fiction will not fail to furnish lessons in a like way to those whose minds are open. If true to life, it must teach the truths which life teaches, and the higher the fiction, the higher the truth. This is, in fact, its best use—for in it its author epitomizes the experience and observation of years, while one who waits to learn from real life alone, may wait half a lifetime to see the results of conduct; and the genius of the born novelist puts things before us in a light clearer than our own reflections would cast. Few of our lives, probably, have furnished opportunity to observe the origin, entire history, and denouement of a course of religious hypocrisy, like Bulstrode's in Middlemarch. Yet his career was in every way possible and lifelike, and it would seem that no lesson from actual life would point a sharper moral or stand a

better chance of making an impression deep enough to need no repetition. To take an illustration of a different character, but tending to the same end, no one capable of appreciating Dorothea's nobility in preserving her absolute integrity of bearing and conduct toward her suspicious, narrow-minded husband, when a little hypocrisy would have served her turn so much better from a worldly point of view, but is confirmed in high views of duty in a way quite as effective as any his daily meeting with reality is likely to afford. Geo. Eliot invented a fine character in Dorothea, and then made this character act consistently with itself; and the simple associating with one incapable of double-dealing or any sort of two-sidedness is a more lasting incentive than any "*haec fabula docet*" could be.

Is there any one who, on finishing "The Cloister and the Hearth," feels disappointed because "they" did not "marry and live happy ever after?" And why, unless because the writer has had the power to make us feel that eternal life is more than happiness, and that no gratification of selfish passion, however innocent in itself, compares with the peace that comes from the setting aside of self for the good of the loved.

The distastefulness of Ouida's novels comes not so much, we think, from any one flagrant immorality as from the general atmosphere of unbridled passion and uncontrolled emotion. It is vulgar and underbred. Doubtless there are such people. So it may be said that in depicting them truth is depicted; but it is not truth of a high order; just as a picture of a cabbage may be a truthful picture, but is not an interesting or valuable one. An aged friend used to ask, when recommended to read some attractive novel, "Is it true?" and when it was admitted that the story was not taken strictly from life, would condemn it as "lies," and refuse to spend any time upon it, thus overlooking the fact that there may be much verbal accuracy to fact in statements which are quite void of moral significance, and much truth of the highest type in a work of fiction. It is probably true, as per Ouida, that some men act as if they were deaf, blind, and crazy when under the influence of hatred, revenge and other base passions, that many others care for little more than to gratify these same passions; that some women are no better than they should be; that many can be tempted to do evil; but these facts in themselves, however true, hardly justify the labored multiplication of books; and—to note the absence of the more signifi-

cant and guiding truth, in the presence of the minor and unimportant one—the above-named dispositions and tendencies do not qualify for the entree of the best society, though these novels would lead us to suppose it ; nor will vice be anything but a delusion and a snare to those who follow her ways.

The chief objection to many novels which deal with marriage is that they seem to teach the false doctrine that we have not to abide the consequences of our own acts. To kill off an unloved husband or wife, even in a book, that the survivor may marry again to suit a changed or an awakened taste, is to teach immorality. Any such convenient correcting of a mistake is not commonly to be accomplished without crime in real life, and novelists would be better employed in teaching the young and careless that as the tree falls so it must lie.

We were interested to see that the author of East Angels had the courage to face out the extremely disagreeable situation she had invented. Critics have censured Margaret Harold's morality as overstrained ; but, so far as cutting short all intercourse with Winthrop is concerned, we should have liked her still better had she cut it still shorter. The ordinary novel would have drowned the objectionable husband when he was on the ocean after leaving Margaret the second time. This was what we fully expected, and to our mind it would have spoiled the book. The only other possibility of relief was a divorce suit, which would have been still worse. So nothing remained but to leave things in *statu quo*, though it seemed unnecessary for Margaret to crucify herself to the extent of living with her husband, since as neither pretended to care for the other, there could be no companionship between them, and there was money enough to hire service for all his invalid requirements ; still as Margaret would probably have done it, the author made no mistake in thus representing her. We could not, however, divest ourselves of an occasional impression of posing—not so much that the heroine poses herself as that the author poses her ; and where there is posing there is affectation, and affectation is not truth. It occurred to us in reading this novel to wonder if it was at all in the author's mind to counteract any possible harm which might have been done by what was to us the weakest spot in her former novel of "Anne," the removing of all obstacles—among them a flesh-and-blood wife—from the path of a man who had acted the weak and cowardly

part of Heathcote, that he might step into bliss unalloyed with the noble and high-minded heroine.

From the reading of Anne Karenina, together with the sense of the general and wonderful lifelikeness of the whole book, most strong was the impression of the very truth above referred to—that we cannot escape the consequences of our own doings, and that in the evil consequences lies the wrong of an action. Surely a union between persons like Anne and Vronsky, refined, intellectual, mutually and deeply sympathetic, was rather to be sanctioned, other things being equal, than the marriage of two entirely uncongenial persons like herself and her husband; and *per se* it would seem that it were a moral act to cancel such a bond as the latter, which should never have been entered into; but the consequence to her son alone, and the ruin of the beautiful relation between them, was enough and more than enough to condemn such a course. Nor could any possible advantage to herself justify Anne in desolating her husband's life and desecrating his home. It was impossible that the happiness she craved could long be hers when built on such a foundation. To step out of the social order and make one's name a hissing and a reproach, has no compensations in itself; and for one to do this and feel any abiding content, he must have been actuated by the highest sense of duty, the noblest abnegation of self. What then remains for one placed in such a position by selfish inclinations alone, enduring the pangs of remorse, a byword to former friends, suspicious even of him for whom all else has been abandoned, self-tortured, self-condemned? We understand, we sympathize, we feel no righteous removal of ourselves as of a different species from these sinners; but never for one moment do we justify their course or feel that the author has any weak excuses for them. Their case is pitiful, but their fate is certain; they themselves have made it.

The book has, in a very unusual degree, the rare merit of making all that happens seem to come to pass of itself inevitably, as in real life. Given certain circumstances, certain results follow by natural laws; and the novelist of genius is not a manufacturer of possibilities but a seer of truth, a transcriber of the actual, a recorder of the will of the gods. And this very quality reconciles us to whatever is tragic and terrible in a work of art. We feel no inclination to quarrel with the author for not giving his book "a happy ending." We are behind the scenes with him. We feel for and, in a measure with, the unhappy actors;

but standing as we do in the presence of the fates who control human life and destiny, we acquiesce in their decrees—nay, more, we approve them—we feel that thus it must be and that it is well. The frightful catastrophe, otherwise almost too horrible for fiction, thus becomes a detail in the necessary course of events, on which we do not dwell, for our minds are occupied with the moral significance inherent in the whole lifelike drama—inherent, for the great novelist stops not to moralize. His characters, their acts, and their destinies, inward and outward, speak for themselves as in life ; and teaching by example and illustration makes impressions far deeper and more permanent than would the most logical argument.

What essay on resisting the beginnings of evil would fall upon our hearts with power as does the story of Tito Milemma? And what drives it in, is our conviction of its absolute truthfulness. It is as true as a mathematical formula. Volumes of sermons on the reflex influence of crime would not be more convincing than is one flash of poetic insight in Pippa Passes. The very crime which was to bring together two guilty lovers, separates them by a mutual loathing. They shrink apart in shuddering horror, and when the lightning blazes on them in the wood, it is to them God's sword plunged here and there to find them. In Signor Monaldini's Niece, very striking is the scene in the church when Camilla's friend bids farewell to Christ and all the saints—very true that the voluntary entrance on a life of sin is a farewell to all the righteous—were it otherwise, very meaningless the incident.

In any character, any plan, any book whatsoever, want of truth is weakness. To us, the flaw in several of Miss Phelps' novels, is a something unbalanced, hysterical, overstrained, in the heroines. If marriage be a treaty between equals, why the shrinking, the contest with themselves, the feeling of a half unwilling yielding to superior force, which these ladies experience? Is there not a want of dignity in it? It is not much in the spirit of "Let me not to the marriage of true minds admit impediment." It is a good deal more like a schoolgirl who has been reading Jane Eyre on the sly, and has evolved the image of man in the abstract with little other aid to her inner consciousness.

So surely is truth the supreme test of worth in a book that we feel we have the right to demand that, in the serious work of a serious

novelist, no incident shall be introduced which could not have happened in real life; nothing, we mean, simply for effect. If George McDonald, for example, never came across, in his experience, such possibilities in animal magnetism, so-called, as he introduces in David Elginbrod, he has written a book in so far frivolous and unworthy. But he is certainly not the man to piece follies together to sell a book.

Many things which in real life are exceedingly tiresome become amusing in literature without being in the least untrue to the originals. Maggie Tulliver's aunts would be unmitigated bores were we obliged to endure them in the flesh; but seeing them in the spirit—of George Eliot—weariness is changed to enjoyment. Many otherwise unendurable situations have their funny side—and it is a great help and renovator of life to learn thus from books to take the sweet and leave the bitter.

Our own Howells often becomes a teacher of equanimity in this same way. His stories are full of felictitous touches; many things humorously true tickle us amazingly; as for instance, Silas Lapham's total impracticability as a dinner-guest, his obtuse foiling of all attempts to draw him out, his social inexperience being so complete that he has no idea he is expected to be entertaining and no conversational resources but paint. Both Lapham and his wife seem so true throughout that it has almost the effect of an indecorum, as if Mr. Howells had been exposing to the public information an insight gained by intimate private intercourse. We felt a little doubtful whether a character so devoid of fineness in all other directions as Lapham's would have so delicate a moral sense, but willing to admit that here the author could be trusted to know what he was about, and very much indebted to him for the lesson on commercial honesty by whatever character exemplified. There is, we think, nothing untrue in Howells, unless that, before long, it will appear by implication that girls and women are all a little trivial, a little affected, a little tiresome, and a good deal unreasonable. We begin to sigh for a woman cast in a large mould. It is not fair to quarrel with a man for his limitations; but if one try to imagine Romola indulging in the inconsequent fooleries of a heroine of the other stamp, we venture to say the *effect* will be whimsical. George Eliots, however, are not born every decade, and there are many who must rank far below her, to whom, nevertheless, we owe much interest, enjoyment and profit.

Nothing is, or can be, more interesting to human beings than human

life. People will always read novels, and never were so many read as now. The country is flooded with them, and unfortunately there is much chaff with the wheat; and just now, when so much trash is accessible, young people seem to be privileged as never before to select their own reading. The Duchess and all her clan are wonderfully popular with them, and, making all due allowance for the grave taste that belongs to our maturer years, we cannot think the Duchess furnishes good mental food.

We quite agree with a friend who said, when asked if he thought there were any such girls as the Duchess represents, that he thought if there were it was a type to be ignored.

It is in youth that the feelings are quickest, the emotions most easily excited; and it is a very great pity that any young mind and soul should starve on trash when there is so much of the best on every side. How much, how very much, he loses whose soul does not respond to the highest literature? How shall these great works be opened to those who need them most? There are but two principal channels through which the taste and education of young people in this line can be guarded—the home and the school. Devoutly do we wish that all parents realized the importance of giving their children nothing but the best to read from their earliest years. Many seem to think that all young people are to be expected to take a course of trash, as they take the diseases of childhood, and in time to outgrow the taste for it; but this is a great mistake. Young people are quite as capable as older ones of appreciating fine thoughts. A young heart will thrill and glow at a generous sentiment, a sublime idea, as an older one is too little apt to do, being dulled by the cares of this world and the deceitfulness of riches. Parents complain that there is no use of buying standard works for their children, for they will not read them—they want something more exciting; but, this shows that the mistake has been made of not beginning early enough to cultivate a correct taste. There are many admirable books to be had for every age, and the time now wasted by many mothers in befrilling and beflouncing their children would be better spent in finding these out. The busiest mother, who has not time nor means for tucks and flounces, if she cannot snatch the minutes to read for herself before putting a book in her child's hands, should not fail to inform herself from some other source—for the life is more than meat and the soul's life than the body's life. Where are the womanly

dignity, the calm simplicity, the sweet benevolence our young girls should be growing into? Will the Duchess breed and foster them? Where are the manly integrity, the contempt for all manner of trickery and smallness, the wise self-control, the cool judgment, we long for in our sons? Will the New York story-paper develop them? In this day of cheap literature, we doubt if either the school, the home, or the church, has more to do than books, with the formation of character.

We have always thought that the school which graduated its pupils unblessed with a taste for the best literature, omitted at least half, and and the more important half, of its work. No one will deny that the formation of character is more important than the acquisition of facts. The wise teacher knows this, and should suffer no press of work, no fear of his pupils' not "passing grade," no cast-iron "course of study" to divert his attention from it. We have been surprised and delighted with the appreciative criticism from a class of young people when once their attention had been turned in the right direction. We have seen them go rather sulkily to work upon a play of Shakespeare which was "not in the course," but knowing they must give their impressions of it afterward, and being thus obliged to read with the mind as well as with the eyes, they came back from the reading with the enthusiasm of glowing faces and shining eyes. No teacher who has himself a taste for true literature need fear that he will have much difficulty in inspiring his pupils with the same. And the earlier the work begins, the better; for "shades of the prison-house begin to close about the growing boy," and the youth, tho' "by the vision splendid," he's "on his way attended," still "daily further from the east, must travel." We have seen many indications of late that the subject of literature in schools has begun to attract the attention it deserves. Twenty years ago, if pushed for time, teachers omitted English literature; and when taught it consisted mainly of the names of writers and their works, together with the century in which they lived, and the "merits and defects" of their writings; which last were glibly recited by a set of young parrots who knew not whereof they spoke, but would rise and say that so-and-so was remarkable for combining force with delicacy, strength with sweetness, when they had never read so much as a line of his writings; and if they had read them, would not have known the one set of qualities from the other. Mechanical teaching could in no department have poorer results than in literature. Fiction and poetry will always be

most attractive to young minds, especially the former; and fiction of some sort they will read. Let our schools then become educators of the public taste, and thereby conservators of the public morals. The youngster who now pours entranced over the adventures of a Texas cowboy and the charming conceptions of Peck's Bad Boy might just as well have been enchanted by Sir Walter Scott, in both his prose and his poetry. The mind which in youth is fed with chivalrous and generous fancies is much less likely than another to become in later life a disturber of the public peace. Let all bad, or even worthless books, say we, be anathema maranatha. There is no more potent influence for ill.

Ellen W. Dennis.

RACINE, WIS.

MILWAUKEE'S CROWDED COURSE OF STUDY.

"What knowledge is of most worth?" is perhaps as vexed a question to-day as when Herbert Spencer first phrased it. There was a time when mathematics and the dead languages were thought to contain all the virtue to be derived from schools; in these modern days knowledge has so increased and differentiated that sixteen distinct branches are deemed necessary in which to instruct and train the modern pupil. Many intelligent men and women interpret the education as offering up the child a sacrifice to the insatiable greed of school curricula. This god will have 70 per cent. of the child's brain and marrow, or reject the innocent as too coarse a creature for his palate. In point of fact, it does seem to be forgotten, apparently, that the child's capacity to grow and to receive instruction is scarcely greater to-day than ever before; and yet, it is virtually assumed that his intellectual maw of twelve summer's growth may be made to compass and digest without debility everything from the constitution of the United States to a weaving-needle. T. H. Hughes, of the Toronto schools, says, "Knowledge is not of more consequence than the child. One human soul is worth infinitely more than all knowledge." This truism smells mouldy almost, and yet courses of study are framed and added to, as though the converse of it were the animating principle. A sentiment prevails that after the child begins to go to school, he should be kept constantly at his maximum power of activity; he must be kept

submerged, so to speak, in the course of study,—like pork under brine to keep it from spoiling.

When a boy, it was exhilirating to me to shove the bundles of grain through the old-fashioned thresher so as to see how large a bulk of straw could be sent up to the stacker. This was done wholly unmindful of the strain on horses and machinery, or of the wheat that went up in straw unthreshed, or of the chaff and white-caps that found their way into the half-bushel. I suppose a crowded curriculum is in keeping with the American idea of "push," but I do believe, that in our average teaching, a good deal of wheat goes over in the straw, that considerable chaff finds its way into the half-bushel, and that when the season is over (graduation day), there are frequently among the pupils, "galled shoulders" and "skinny ribs" which attest friction and strain.

All admit our course of study overcrowded, so why multiply words in proof? This admitted, the pertinent question is, How shorten it? I take it either or both of the following methods may be employed to this end: one, to throw out one or more branches of study altogether; the other, to eliminate the least essential and the non-essential from certain branches. But it is one thing to diagnosticate a disease; 'tis quite another to apply the proper remedy and stand the patient upon his feet sound. The aim of our course of study is to give a broad and sound foundation for any superstructure whether professional or otherwise. Its aim is to make good and intelligent citizens, to teach what is eminently practical, and to admit nothing of a purely disciplinary nature unless it be so in a high degree. In attempting to discover a just standard with which to gauge the relative value of the individual branches, I have hit upon three questions, an affirmative answer to any one or more of which would entitle the branch in question to a place in the school curriculum.

First: Is training in, and a knowledge of the branch (in question) necessary to the intelligent discharge of the duties of citizenship?

Second: Is the branch (in question) eminently practical in the ordinary avocations of life? i. e., in buying or selling commodities or services.

Third: Does the branch possess a disciplinary value peculiar to itself, and that in a high degree?

Put these questions thoughtfully and candidly to each of the follow-

ing studies taught in our public schools : Reading, Writing, Arithmetic, Grammar, Geography, Spelling, Drawing, Calisthenics, Music, History, Physiology, Constitution, Book-keeping, Physical Geography, Physics, and German. Admitting the standard to be just and comprehensive, *German would need to go.* That is to say, German should be dropped from the school curriculum, because it is not necessary to the intelligent discharge of the duties of citizenship, neither is it eminently practical in the ordinary avocations of life, nor disciplinary in a peculiar or high degree. It has been urged that the German needs to be retained in the course in order to hold the children of German parentage within the Americanizing influence of the Public Schools. This position, however, is untenable, as was clearly shown by Prin. White recently. He quotes statistics from Annual Reports of Milwaukee Schools, showing that when German was introduced into the Public Schools of Milwaukee, there was no marked or unusual increase in the percentage of pupils in the Public Schools ; furthermore, that when increased facilities for teaching German have been made from time to time no marked increase in attendance has been observed. The converse would need be true.

Applying the same test questions to the studies of civil government, physical geography, grammar and arithmetic, the following eliminations and modifications would need to be made. The Course of Study as outlined in civil government is not excessive in its demands if merely lived up to. The outline given admits the eighth grade to a wide range. There are virtually no limitations to the fields of constitutional law and history. I take it, however, that our children do well, and do enough, if they get the main and practical methods and principles of civil government, aside from the relevant scraps of law and history which may be hung on to the grade work till the vital and essential truths are wholly lost sight of. In physical geography, I would omit all parts relating to geology as a science, confining the study solely to relief forms, and to phenomena and subjects which admit easily of observation, illustration or experiment. In arithmetic, I would drop longitude and time. It is not necessary to intelligent citizenship ; it is not practical; neither is it peculiarly or highly disciplinary. It is not necessary to the study of any subsequent part of arithmetic. It is ill-adapted to the child's powers in the sixth grade, any just knowledge of it being obtained at the cost of infinite labor and patience. Bank discount, stocks,

certain of the problems in interest, and equation of payments, can lay little if any better claim to a place in the curriculum. In the natural course of development, mensuration of cylinders and cones, pyramids and spheres, and the like, belong with practical applications of geometry in the High School. To know how to compute the respective volumes of the solids mentioned is not eminently practical nor highly disciplinary. Enough would remain with these omitted to develop more power and independence of thought than is now secured, together with a thoroughly practical knowledge of arithmetic.

Grammar or language is at many points illogical or sadly out of joint. To follow "Bright's Graded Instruction," with Swinton's grammar in the fifth grade is discouraging and stultifying to the pupils. It is much like feeding poultry screenings for a time, then corn in the ear. We need a carefully graded course in language, adapted to the mental development of the child in which analysis and synthesis shall be intimately correlated. Much composition work of a practical nature, embracing good style, good spelling, good punctuation, should characerize our middle grade work in language, technical grammar being relegated to more mature years.

Arthur Burch, Prin. 16th Dist. School.

MILWAUKEE, WIS.

THEORY AND PRACTICE.

FORMING CHARACTER.

BY T. L. ELIOT, PORTLAND, OREGON.

The old Spartan's advice to his boy who complained that his sword was too short, was, "Add a step to it." What I would say then this evening is weighted with venerable authority from philosophers and prophets, and from all souls that have made real trial of life; and yet, just because it is the burden of the ages, we may treat experience as we do distant mountains or seas, as if they were things that have less to do with our real work than the water-pitcher and medicine chest. The profession of educator, the most honorable of all, since it keeps the trust of childhood, and that age keeps all other ages, is open at this day to the same danger that all other professions are exposed to—it is the day of tools and of patents, of specifics, of processes; and the danger

we run is that we may think more of sleights of hand than bents of nature; more of the way to do things than of the consecrated purpose. Now, without the least disparagement of methods or tools, it is my privilege this evening to endeavor briefly to fix our thought upon that which passes over from teacher to scholar of *character*. I wish to say, first, that this is infinitely the most important part of a teacher's influence. Secondly—that the best part of a teacher's work, in respect of character building is an unconscious work; and that, thirdly, being so important and an unconscious work, the sources of this influence are not in things done, or ways of doing, but in the realm of being.

And, first, that character is the chief thing passed over from teacher to scholar, I think can be best known from what each one of us, as a personal experience, recalls of the teachers of his or her childhood. If you can renew hurriedly the preceptors you had, from dame school to college, you will find that they instantly group themselves into two classes—those who impressed themselves upon your young mind as *friendly*, and those who, if not *enemies* (that word is too harsh) were at least aliens; if you remember them at all it is for a distinct repulsion or sense of the mechanicalness of the relation between you. I would speak for the average child, not the best nor the worst, and I would speak of permanent and enduring impressions, not the piffs and puffs, the likes and dislikes of a passing hour. You will remember your teachers, in the first swift thought and in the last analytic judgment, by this test. It is not so much that you learned arithmetic from this one, and how to draw maps from that; but this one's face and form comes back with a gentle glow, a sense of personal warmth and confidence, a going out of the heart because of the memory of a heart that came out toward you—it is the memory of a man or woman whose whole conduct said, "Let us be friends and work together for a great end." It is the face of one who treated you not as a part of a dozen or a fraction of a class, but with an individual interest and solicitude, a love touch, and with the courage that never let you think better nor worse of yourself and work than you ought. It is the face and memory of a teacher whose justice, in intention, you never suspected; whose mercy never left you weaker in purpose or more self-indulgent; and whose restraining or corrective discipline, when needed, you were made to feel hurt your friend's heart more than it did you. I served for a year or two after my college days in an academy, under a principal who treated

every breach of earestness, in the school life, as a high crime. He treated it that way because he felt it that way. He was careless to a remarkable degree of what I may call the surface manners of the scholars. I have seen his boys knotted into every shape a boy can unravel from a loose anatomy, over their busy desks. He, the teacher, chiefly cared that the lad was dead in earnest—saw that his contortions were the correlation of his mental problem with his muscles; and only some very unusual twist would bring out a humorous remark or, better, a kindly touch of the hand as he passed by. But, let the boy slack-twist his mental fibre—get the rolling eye, and the lounge of idleness or slumping—and the day of judgment began to stride upon him. One fair warning and then insulted law came upon the offender with a moral and personal weight he seldom forgot, and, note this, seldom resented, for the public opinion of the whole school would be against him; and he, also, was made to feel that the teacher was never more his friend than when bringing the prodigal of earnestness back to himself. It is needless to say that such a teacher helped to make strong and independent intelligences, although he never marked standings but once a month, and never formally examined his classes; (let us admit these things, as part of a feebler grasp in the teacher, or a provisional necessity of systems) but, of far more value, yes, infinitely more, was the *power* passed over from this man into every one of his scholars—the power of his own character, elements of courage, sincerity, hatred of shams, a balanced will. On the other hand—need I dwell on the injuries put upon the wax-like minds of children when the tables are turned, and the teacher is slack-twisted in mental fibre and gelatinous in purpose? I have heard health dwelt upon as a necessity in the teacher, and it is a priceless endowment, either in teacher, or preacher, or any leader of minds. I have often heard of born teachers, men or women, with the native gift of imparting knowledge; and this also is an inestimable endowment. I see teachers, who are great at little things of detail, and it is a true sphere for greatness—it is only little minds that despise little things; but above all these endowments let us place the quality of entire consecration to the work. Tremble for the child whose teacher, however gifted, does not personalize his school work, with all the fine ethers of such a consecration! That child may learn his lessons—may earn his marks; may have a deportment "icily regular, faultily faultless"—but he will have missed, so far as his teacher is concerned,

the gift of gifts. There may be even a certain business stir and pride of standards kept up in such a school; but, believe me, in the supersenual essence of an education, it will be a failure. Life earnestness is that gift of gifts. Tell me not of a teacher that "she keeps good order;" "she makes the children learn;" nor will I, on this plane of high ideals, be satisfied with knowing that the teacher is conscientious—that word often describes a tither of mint, and anise, and cummin—a worrying keeper of rules, a mere precisionist; but tell me of a teacher who *inspires*, who brings such wholesomeness to her work, that the doing of it is the least part of it. I use the words advisedly—a teacher whose doing of the work is the least part of it. A man may so do his work, in a certain task-spirit, as to seem to say with conundrum-asking Peter, "How often shall I do this; until seven times?" but the answer of every inspired and inspiring worker is, "Until seventy times seven." Inspired work knows no bounds, except those which God's horizons and laws of spiritual gravitation impose. Give us this wholeness of purpose, this boundless sense of mission, and it will secrete and invent and appropriate methods; or, without any method, impress something on history, on the history of an immortal nature. Let teachers read the lives of men like Pestalozzi; a man who measurably failed upon the secondary side of a teacher's life; he could not successfully methodize —but who poured out upon the whole face of Europe his sacred devotion to childhood, and so watched with God in sunshine and night dew that he won a way to the tenderest mysteries and spiritual chemistry of the creative work in child-nature. From his hints and fragments come the best we know of child souls, as the broken statutes of Greece give us forever the ideals and inspiration of art.

But I must go back to my order; and now add that, secondly—the better part of this very influence is unconscious. It has been well said that "in much of the world's best work the unconscious element is the most precious." A man's life-work may be a failure, from human stand-points, even from his own stand-point, and yet an invisible something has been added by him to the priceless stock of human worth and fidelity. This general truth is a consolation to lift us over many a stage of broken and disappointed hope. Life would modify and passing years terrify, were it not for the faith that Providence has far more to effect out of every sincere life than we can count or measure; and, of the earnest, consecrated teacher, this is pre-eminently the case—his real

victories are not registered in the school room, or to be counted over on the roll-calls of institute fame. They are victories of friendship, of love, of reverence from the child-heart which he first revered and loved; and whose individuality he respected far more than a botanist does that of a newly discovered and unclassified flower. It is the ***human touch*** that marks the greatest teacher; and this touch so real, so personal, is an unconscious element, pervading the whole of life. It is, indeed, that genuine and unconscious sympathy with child-nature which discovers methods; methods suggested always in the first instance by the loving search for lines of least resistance; methods, according to the whole nature and order of development of the child, and not deduced from logics and philosophies. I am told that the "Tonic Sol-Fa" system of music was discovered by such a teacher, who longed to lead the little feet along some pretty by-path instead of over the difficult steps which were spaced for grown-up legs; and, after the discovery, and wonderful success following upon it, up step grave philosophers of music and say it is the best, the truest, and the most natural way that was decreed from the foundation of the world. But, it needed a yearning heart, one that beat and fluttered with the timid child's, to find it out. I emphasize the unconscious influences springing over from the teacher's mind and heart, and entire consecration, because consciousness always implies a certain patronage or officiousness, which measureably defeats example and prevents the finer contagions of character itself. Children are seers, and detect with remorseless haste the goody goody tone, the prating moralist; the retailer of self in packages adapted forsooth to their years. But she who is always at her best, being and doing the best that then and there in her lies, with no suggestion of stint and every unconscious suggestion of love, of self-sacrifice, is giving off virtue from her very garment's hem.

And, lastly, I have said that this major influence of the teacher being so important, and, at the best, an unconscious work, its sources are not in things done or ways of doing, but in the realm of being. I may safely leave my theme here to your own enlargement. If in any of my words I have seemed to lift an impossible ideal—well, can you ask less or believe in less of your own immortality?

> "When half gods go
> The gods arrive."

And can we bring a less glowing or less sacred mind into a work like

this? The child in our midst is at once likeness and prophecy of the kingdom of heaven to come on earth. What shall he take from us but love, benedictions, and the precious freight of all that is best in us of faith, of courage, of heavenly-minded hope?

MENTAL ARITHMETIC.

From the Report of the Milwaukee Superintendent of Schools.

Mental arithmetic was re-introduced some four or five years ago with good results and a decided benefit to the whole training in mathematics. According to present requirements, regular and systematic training in this branch is carried on in all the grades. While indulging in the hope that the good work will continue, we must not forget that it still needs the vigilant attention of principals, for some of our teachers are not skilled in the subject, their inaptitude being due to a neglect or contempt for the branch which became fashionable ten or fifteen years ago, while they were preparing for the duties of the school room. For those trained only to contemn a subject it is by no means easy to comprehend its aim and value, and still less easy to repair the deficiencies of their own education.

In a teachers' examination held at this office in August last, the following questions were given upon printed papers. Each candidate was required to dispense with the use of pen or pencil, except to record results. Thirty minutes were to be allowed, but the papers were not collected until after thirty-five minutes had passed. Each question counted ten credits, and the candidate was allowed to try all questions; and yet with this advantage, the standings of thirty-one candidates ran as follows: 130, 130, 120, 110, 110, 100, 100, 90, 90, 90, 90, 80, 80, 80, 80, 80, 70, 70, 60, 60, 50, 50, 50, 50, 40, 40, 30, 30, 30, 20. When it is remembered that a possible 130 credits was attainable in this paper, no further evidence is needed to prove that the average ability in arithmetic of candidates for certificates *is very low indeed.*

MENTAL ARITHMETIC.

1. Add 17, 8, 9, 6, 7, 9, 11, 13, 22.

2. A and B do some work in 6 days. A does ¾ as much as B. In what time will each do the work?

3. A does some work in 2 days which B does in 4. In what time will they do the work together?

4. What time is it when the time past noon is ½ of the time to midnight?

5. At $3 per ream, what are 2½ quires of paper worth?

6. At $10 per ton, what is the cost of 3 cwt. of coal?

7. What is ¾ per cent. of $800?

8. If 10 yds. of cloth cost $70 at what must I sell it per yard to gain 20 per cent?

9. $600 is 400 per cent. of what number?

10. What per cent. of 2,500 is 12½?

11. San Francisco is 120° 32' west longitude, and Sacramento is 120° 31' west. What is the difference in time between them?

12. What is the difference in longitude between two places when the difference in time is 3 hours?

13. A man buys an article for $1 and sells it for $100, what per cent. does he gain?

Teachers and pupils not trained in mental arithmetic manifest a weakness of mental grasp that is sometimes quite surprising. They seem to lack the power to think of more than one numeral fact at a time unless the mind is supported by visual cognizance of the figure representing the number or the operation performed. To make an inference or a deduction from remembered figures and facts seems a hopeless task.

OFFICIAL DEPARTMENT.

STATE LIBRARY LIST.

To the Town Board of Supervisors: GENTLEMEN: — By Chapter 426, Laws of 1887, it is made the duty of town boards of supervisors, pursuant to the directions of the State Superintendent, to expend in the purchase of books for district libraries all moneys withheld from public school funds for such purposes. These purchases are to be made during the month of July in each year.

By the same law it is made the duty of the State Superintendent to prepare annually lists of books suitable for school libraries, and furnish a copy of these lists to each town board of supervisors in the state. From these lists the town boards are to make selections for purchase.

Pursuant to these provisions of the law, I have the honor to submit

the following list of books which I deem suitable for school district libraries.

In the preparation of these lists I have been greatly aided by the recommendations and suggestions from superintendents and teachers throughout the state. The effort has been to select books that are not only interesting, but are also instructive, and calculated to cultivate a taste for profitable reading.

One of the important purposes of a school district library is to supply the needs of pupils in rural schools who do not have at hand other books than those upon the branches of study pursued. These needs can best be met by books adapted for reading supplementary to regular studies, and by a judicious provision of books of reference. In preparing the following lists the aim has been to select readable and reliable books adapted to these conditions.

Four lists are here presented. The aim has been to classify the books according to the needs of pupils at different periods of school life, the basis of classification being the course of study recommended for elementary schools. A list of books suitable for pupils in high schools which come within the provisions of the law has been added.

To explain more fully : the first list is intended for the use of pupils in the second reader ; the second list for pupils in the third reader ; the third list for pupils in the fourth reader ; the fourth list for pupils in the high schools, and for readers in the community.

In the purchase of books for district schools, selections should be made, generally, from the first three lists. Where there is a high school within the town, or a disposition prevails to provide general reading for the community, a few books should be taken from the fourth list.

Accompanying the name of each book on the lists will be found a short description of the contents of the volume, which, it is hoped, will be a helpful guide to those making selections for school libraries.

The amount of money to be expended in accordance with the law is comparatively small, but the few books that it will procure will be of incalculable value in those districts where no other provision for a library has been made. A large library is not at present desirable. Such a library can only be fully utilized when the tastes and habits of the community are developed and trained to the opportunities which it

affords. Hence a large library should be a slow growth, keeping just in advance of the growing demands of its patrons.

The list of books herein presented was submitted to leading jobbing houses for propositions as to prices for which they would furnish them. The prices placed in the second column (which on the whole are the lowest offered), are the rates at which books can be purchased by town boards of supervisors from S. A. Maxwell & Co., 134 Wabash Avenue, Chicago, Illinois.

It is desirable that purchases be made at as early date as practicable, in order that the books may be labeled, recorded and distributed to the districts by the first of September. Rules and regulations for public school libraries will be sent to town clerks and to all others who make application for the same.

The library law has been fully tested and has met with general approval. Reports from all parts of the state show that it has been widely complied with by town boards of supervisors, and has also awakened an interest in library matters in many communities that do not come under the provisions of the law. Any assistance that can be rendered by this department in carrying forward the good work will be cheerfully given.

Your obedient servant,

J. B. THAYER,
State Superintendent.

PRIMARY GRADE OR FIRST FORM.

Title and Author.	Publisher.	Retail Price.	Price to Distr'ts.
Book of Fables. By Horace E. Scudder..... Best known fables, chiefly from Æsop.	Hought'n, Mifflin	$ 40	$ 36
Book of Folk Love. By Horace E. Scudder..... Household tales.	Hought'n, Mifflin	40	36
Letters from a Cat. By Helen H. Jackson.....	Roberts Bros.	1 25	72
Mammy Tittleback and Her Family. By Helen H. Jackson. Interesting stories about pet cats.	Roberts Bros.	1 25	72
The Hunter Cats of Connorloa. By Helen H. Jackson..... Story about California home life, with bits of travel.	Roberts Bros.	1 25	72
Seven Little Sisters on the Round Ball. By Jane Andrews.	Lee & Shepard.	80	53
Seven Little Sisters: Each and All. By Jane Andrews..... Stories in geography, the "sisters" being the seven races, and the "round ball" the earth.	Lee & Shepard.	80	53
Adventures of a Brownie. By Miss Muloch.....	Harper & Bros.	90	54
The Little Lame Prince. By Miss Muloch.....	Harper & Bros.	1 00	60
Davy and the Goblin. By Chas. E. Carryl..... Noted fairy stories containing many useful lessons.	Ticknor & Co.	1 50	90
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EDITORIAL.

KIND words for the JOURNAL come to us from many sources, and are highly appreciated. We cannot deny ourselves the satisfaction, however, of quoting the following from a private letter of our Japan correspondent: "I must tell you an interesting item about the WISCONSIN JOURNAL OF EDUCATION. When I am through with each number, and do not wish for any special reason to preserve it, I give it to Mr. Watase, who has just been promoted from the high school to the Normal school principalship. He told me that he found them very valuable, and had copied a great deal from them for reference." We shall spare no pains to make the JOURNAL of value to Wisconsin teachers, and fully believe that they will find it to be worth much more to them every year than the subscription price. It is a medium of connection with the educational work of the state, discusses independently the great educational problems of the times, gives much attention to the theory and practice of teaching, contains a great many hints and helps for the school room, and strives to keep its readers abreast of what is best in the educational thought of the time. Its circulation ought to be greatly extended. We want an active and intelligent agent to canvass for the JOURNAL at each of the fall institutes, and are prepared to offer inducements to such to work for us. Persons wishing to take an agency for their county and to canvass vigorously for us in any institute are invited to correspond with us at once. We shall be glad also to have agents in each of the principal cites of the state.

COMMENCEMENTS and commencement programs naturally call attention to the rhetorical work of the schools, and afford a fit occasion for pointing out one of its characteristic defects. With all the advance which has been made, we

are still far from realizing a proper idea. There is something painful to a right-minded person in listening to a discourse from a girl or boy of sixteen which somehow has received the reflections and coloring of a mature life experience. The case is still worse when the production is enriched with allusions and literary turns for which youth rarely if ever develops an appreciation. Is it possible, we say to ourselves, that our public schools, in these public rhetoricals, directly cultivate dishonesty? Are there teachers in responsible positions who will pervert the fountain of right living in youth by making over for a pupil a production to be given in public, putting into it new thoughts, and new turns of expression, until it is no longer, in any fair sense, the pupil's own work, and then set him before an audience to make his first public success under false colors furnished him by his teacher and moral guide? We hope not. That such help is felt to be necessary results from defective training, and what the chief defect is may be readily made out by an examination of school commencement programs. These show that a great many of the young people who appear on such occasions have no subject. They have a title for their "piece," but the title is not a subject. Often the title tells all there is to say in the matter, and the poor essayist has only to beat about for various ways of saying this. What, for example, can a child do with such a title as "Finish What You Begin," or "Toil the Price of Success?" Or, again, the title is so vague and general that none but an experienced writer could, in treating it, escape the error of dropping into trivial commonplaces; as "True Heroism," "Happiness," "Education." This is too much the character of school composition work. It is strained, unnatural, unreal, and the pupil's reaction against it is wholesome and commendable. When this work shall be more closely connected with his school studies; when his teachers first set him to investigate something and then give an account of what he has found out; or to observe something and then describe it; or to discuss a question which has two sides to it; or to narrate as skillfully as he can a bit of his own experience or an historic incident; when, in short, his teachers shall give him real subjects, and help him to write effectively about them; then we shall have less temptation to make him falsify on commencement day, and less unnatural and profitless performances on commencement programs.

ALTHOUGH the Library List occupies considerable space in this number of the JOURNAL we feel sure that in the publication of it we confer a service upon a large number of readers. It is primarily intended for the use of officers of towns and school districts charged with the execution of chapter 426, Laws of 1887, relating to school libraries, but its utility is by no means limited to such. Its value is great to all teachers who are anxious to know—as what wide-awake teacher is not?—what books are suitable to recommend for the reading of the pupils under her charge; to officers and teachers of city schools who are building up, or desire to build up, school libraries independent of the law above referred to; to parents seeking to find safe, suitable and useful books for the reading of their

children; to young folks anxious to know what there is for them to read; and again, to teachers looking about for books for their own entertainment and instruction. It will be observed that the list is not only considerably longer than that of last year, but that it has been selected with much greater care, as more time was disposable for the making of it. These books have all been carefully examined by competent persons, and it is believed that they will be found worthy of the place assigned them. To aid in the selection for purchase they have been thrown into groups suited to different school forms or grades; and further, a brief description, designed to indicate as clearly as possible the character of the book, has been appended to most of the titles. We recommend to teachers to place this number of the JOURNAL where it can be easily consulted, not only by themselves, but by their friends and pupils, that the list may be studied, and help young people to become familiar with the titles of a few of the best books for their instruction and entertainment which are now accessible.

OUR BOOK TABLE.

COLLEGE ENTRANCE EXAMINATIONS.

RECENT EXAMINATIONS PARERS for admission to Harvard, Yale, Princeton, Sheffield Scientific School and Columbia School of Mines. Edited by John S. White, (Ginn & Co., 324 pp.)

Two prominent suggestions arise in the mind of one who examines this book intelligently. One is the manner in which the entrance examinations of our higher institutions determine the teaching of the preparatory schools. Indeed, in any system where examinations are made the tests for passing from grade to grade, the character of these examinations is of the highest importance. And it makes little difference whether the questsons are published or not; they are known and discussed, and those preparing pupils to meet them shape their work inevitably as closely as possible, to meet these demands. The examiner, therefore, sets the standard of work for the lower schools. This is one of the most important indirect services rendered by our higher institutions of learning. They determine not merely the subjects of instruction in the secondary schools, but the method of treating the subjects and the kind of mental effects secured through them, not only for the small number of youths who enter colleges, but for the far larger number who attend the high schools; and through the standards of these high schools they affect the work of elementary teachers. Such books as this are a striking evidence of the directness and importance of this effect. The second suggestion flows from this, namely, that there has been a marvelous improvement in the character of the work demanded for admission to our best colleges. They seek now originality and power rather than mere knowledge, a well stored memory. In geometry and algebra, for example, the student will find half or more of the work required by these questions to be

in the form of original problems or demonstrations. In Latin, Greek, French and German the colleges are no longer satisfied with demanding that the candidates shall have read a certain stipulated amount of a few authors; he must know the language, and his knowledge is tested by requiring him to read at sight select passages which he has never seen before. The questions in geography and history show a corresponding increase in the work demanded, requiring greater breadth and fulness of knowledge and power to use intelligently the facts mastered. Physics and botany are required, and the examinations in them are real tests of power. All this shows how rapidly our colleges are growing to be real universities. The work now demanded for admission is almost equal to that required for graduation fifty years ago, in some respects is an advance upon that. This book, therefore, is not only a guide to methods of teaching but an evidence of the rapid development of our higher institutions of learning.

—HISTORICAL MAP OF THE UNITED STATES, by E. A. W. Goff, (National Historical Publishing Co., 182 Wabash Av., Chicago, Ills., 62x64 in., $10), is an aid to the teaching of American history, the value of which it would be hard to exaggerate. The plan is original and exceedingly effective, presenting not only general outlines but also the details of history upon the map of the country in such a way as to avoid confusion, and assist the learner materially in grasping the relations of events. Commencing with the earliest discoverers, it traces clearly the route of all explorers, placing properly the date of each important event. The areas of operations in the French and Indian war, the Revolution, the Rebellion, etc., are clearly marked out, and in this area each campaign is carefully traced. The first settlements in each of the states are noted, the first railroads located, as also the first canals, telegraph lines, street cars, etc. About the main map are skilfully grouped a number of subsidiary ones of great value—arctic explorations, acquisitions of territory by the United States, the Mexican war, histories of the states, important campaigns, etc.; the whole making a remarkably complete presentation to the eye of the history of this country. It is needless to dwell upon the value of such a map to the teacher of history. It not only associates the event with its location and in its relation, but presents the whole to the eye, which is the most effective mode of fixing it permanently. It is hardly to be expected that so original and extensive a work should be absolutely free from errors. We have noted a few, but our examination has satisfied us that the map is essentially accurate, and we heartily commend it to the favor of our readers.

—Kellogg & Co. issue some very admirable books for teachers, such as Payne's Lectures on Teaching, Hughes' Mistakes in Teaching, Art of Securing Attention, etc. Nothing better for sale at the iustitutes can be found. A fuller account of their publications and offers will be found in our advertistng columns this month.

NEWS AND NOTES.

—The following changes occur at the close of this year in the faculties of the normal schools: At Whitewater, Prof. T. B. Pray will assume the position of institute conductor vacated by Prof. Maxson and Prof. Geo. C. Shutts, of the Pottsdam normal school will become teacher of mathematics; Miss Sara E. Whittaker has resigned the position of teacher of English language and literature, and will be succeeded by Miss Anna N. Cottrell, of Battle Creek, Mich. Prof. Stump goes to the normal school at Pottsdam, and his successor is not yet selected. At River Falls, Prof. F. H. King will probably accept a position in the university of Wisconsin; his successor is not selected. Mrs. E. A. Watson, teacher of mathematics, resigns and will be succeeded by Prof. C. G. G. Paine, formerly of Beloit and Chicago high schools; Miss Lucy E. Foote, who has taught reading and literature in this school since it opened, resigns to henceforth reside in California; Prof. T. H. Kirk, institute conductor for the last year, has resigned; successors for neither of these positions have been designated. At Milwaukee, Miss Hilliard, of the model school, has resigned, and returned East, and Miss Strong, also of the model school, has been called home on account of serious illness of friends, with a probability that she will not be able to return.

—The official announcement of the State Teachers' Examination (July 30 and following days) was published in the JOURNAL for April, and the program of the examinations in the May number. The attention of candidates is especially called to the program, which the Board will follow closely and will not expect to concede examinations in any branch except at the time assigned for it.

—The new catalogue of the State University, which was issued late in June this year, shows the growth of the institution and some important changes in its arrangements. The total enrollment for the year just closed is 637. Besides some modifications in the regular courses of the college of letters, the civic-historical course antecedent to law and journalism has been considerably expanded; a special science course antecedent to the study of medicine has been provided for normal school graduates; courses have been added in Hebrew, Sanscrit, Spanish and Italian; and the German seminary plan of instruction has been introduced into several departments.

—The departments in the University especially devoted to original investigation receive due recognition. These are the Washburn Observatory, and the Agricultural Experiment Station. The publications of these are well known all over the country, and those of the latter have been especially interesting and practical during the past two years. Closely allied to these as manifestations of the extension of University work are the departments of extra Collegiate education, including the Agricultural Institutes and the Teachers' Institute Lectureship, two agencies which the University has been the first institution to develop, and which bring it into close relation with the practical progress of the State.

—Another interesting development of the present year at the University is the eight University fellowships for post graduate study with an income of $400 per year each, candidates being nominated by the President and faculty and elected by the Board of Regents. At the commencement the following persons were elected to four of the fel-

lowships, the other four remainining vacant until next year: Louise M. McMynn, Racine; Harriet L. Remington, Baraboo; John S. Roeseler, Lomira, and Harry L. Russell, Poynette. The Hon. John Johnston, of Milwaukee, has also established a fellowship of $400 per year, to be given in preference for excellence in the department of mechanic arts, and Mr. Walter A. Rogers, Milwaukee, was elected to this.

—Some changes have also been made in the conditions of admission to the University. The Catalogue says: "Conditions have heretofore been allowed in two studies, that is, candidates deficient in two studies have been allowed to make them up. This provision is now withdrawn, and conditions will be restricted to such cases as, in the judgment of the examiners, seem to justify them, chiefly those in which the candidates are mature and naturally strong and are incompletely prepared merely from lack of opportunity." The graduates of accredited schools will be received upon certificates from the principals and such others as he may especially recommend testifying that they are qualified to enter. Other students from these schools must expect examination. A system of special local examinations for admission is provided, the questions being sent upon application, to the principal of the school or the county superintendent, who will return the answers to the University, and the result will therefrom be reported to the candidate. A number of these examinations have been held this summer. The regular times for examination for admission to the University are, this year, June 14 and 15, and September 4 and 5.

—At the University commencement honary degrees were conferred as follows: A. M. on Hon. J. Johnston, Milwaukee; LL. D. on Rasmus B. Anderson, U. S. Minister to Denmark, and Rev. Dean Richmond Babbitt, of Milwaukee.

—An excursion party to the National Association at San Francisco is organizing in Milwaukee under the management of Prin. W. J. Desmond. They will go on the Union Pacific using the new tourists' sleeping cars of the line, starting from Milwaukee at 4 P. M., of Monday July 9. They will stop at Denver, visit Clear Creek Canon, Salt Lake City and Garfield Beach, dismissing the car on arriving at San Francisco. The party forming in Madison will take a Pullman sleeper and keep it for their home during an excursion of thirty days or more.

—The Excursion committee of the National Association announce that the following rates have been secured from San Francisco to the Yosemite valley: Round trip, via. Mariposa Big Trees and Inspiration Point, $31.50; via. Milton, $25; Same with side trip to the Calaversa Big Trees, $10 additional. The usual rates are $45 and $50.

—There are few summer schools that offer advantages equal to those at Madison this summer, and we know of none where the expenses are not greatly above those at the Wisconsin school. The State University and Institute Committee have both contributed to support the schools, and a good attendance is already assured. Can an enterprising teacher find a better or more profitable way of spending the summer than at this school? It opens July 10.

—All the graduates of the Oshkosh Normal School this year had secured positions before commencement, and almost all of those from the other Normal Schools.

—At the several Normal Schools the graduating classes are as follows the present year: At Platteville—Advanced course, gentlemen 8, ladies 4; total 12.

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—The catalogue of the River Falls Normal School for the past year shows an enrollment of 322, of whom 167 are in the Normal Department. That of the Milwaukee Normal School shows 215, of whom 53 are in the Normal Course. As the conditions of admission to this school are different from those applying to the other Normal Schools, some of our readers may be interested in the statement of them: "(a) by certificate of having completed the first three years of one of the existing courses of study in the high school at Milwaukee, excepting trigonometry; (b) by elementary certificate from any Normal School in Wisconsin; (c) by diploma from such free high schools in Wisconsin as have adopted the four year English and Scientific course of study prescribed by the State Superintendent for such schools; (d) by examinations on the branches in the last mentioned course, except that English history be substituted for Theory and Art of Teaching."

—The institute program for the coming year is printed, and is noticeable especially for two features: 1, there is provided in the fundumental branches, in a general way, a review of the work to be undertaken in the schools in all the forms under the course of study; and, 2, less attention than usual is given to the outline of specific exercise, leaving conductors to shape them to the needs of each institute.

— *The Whitewater Educator* is the name of a new educational monthly issued at Whitewater, and edited by Mrs. J. F. Humphrey. It aims to promote the interests of the schools of that city and vicinity. We give the new venture a hearty greeting, and hope it may secure a good patronage.

—Supt. W. J. Hoskins, of Jackson county, read a paper on "The Teachers of Our Common Schools" before the farmers' institute at Black River Falls, which seems to us to contain matter of much interest, a portion of which, at least, we hope to lay before readers of the JOURNAL soon.

—The apportionmet of school money by the State Superintendent has been made for the present year. The amount apportioned was $771,597, being $85,997 more than was distributed last year. The most noticeable increase in any of our cities is in the amount falling to Milwaukee—$82,654.90 against $68,331 last year.

—The death of Prof. Irving, of the State University, removes one of the most industrious and successful investigators of this state. Prof. Irving had made some important discoveries in geology, which he had reduced to demonstration and intended soon to make public. Of one of these Pres. Chamberlin says, in a notice of Prof. Irving published in the *Ægis:* "Perhaps the most important single determination by Professor Irving, and one of the latest, was the demonstration of the origin of the iron ores cf the Lake Superior region. By a series of admirable investigations, he has traced step by step the transformation of the ores from the original earthy carbonates of iron to their present form. He has made it altogether clear that originally they were deposited as sediments in a

manner almost precisely identical with that of the iron ores of the coal fields of Pennsylvania. This has given great significance to the association of these ores with carbonaceous shales, and has led to the recognition, on the part of those who are alive to these important determinations, of the fact that as far back in the history of the world as the times which were formerly known as Azoic there existed carbon-depositing agencies competent to produce all the essential phenomena of the coal period. This prolongs, in no insignificant way, the vast backward reach of geologic time, and out of these investigations will spring not only new conceptions of the nature of the iron deposits, and of the laws which govern their development, and which must guide in their utilization, but also theoretical views of the lapse of geological time and of the backward stretch of life of no little moment."

WILL YOU GO TO SAN FRANCISCO?

The next annual meeting of the National Educational Association will be held in San Francisco, California, July 17th to 20th. Very favorable excursion rates will be made from Chicago and all other points on the Chicago, Milwaukee & St. Paul Railway, with choice of routes via Omaha and Kansas City in going and returning. Special excursion rates will be made from San Francisco to all points of interest in California, and to Alaska and the Sandwich Islands.

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WISCONSIN TEACHERS' ASSOCIATION—THIRTY-SIXTH ANNUAL SESSION.

TUESDAY, July 8, 8 P. M.

Hon. Geo. B. Shaw, mayor of Eau Claire, on behalf of the citizens of Eau Claire, welcomed the teachers in a short speech abounding in good things.

Prest. T. C. Chamberiln, of the State University, then spoke on the "Moral Functions of Modern Scholarship," instead of developing the topic assigned to him in the program. The moral is not usually connected in thought with intellectual processes, though a moral character attaches to our thinking as well as to our acting and feeling, and narrow-mindedness is as much a subject for reproof as any other crime. To think right, to feel right, to do right, are necessary to moral completeness.

What are the functions of modern scholarships, and what is their effect on evils of the time? Securing knowledge involves understanding of the frame-work on which it rests. Scholarship is the combination of process and product, not the product alone; the characterestic of modern scholarship being the investigating spirit. The habit of acquisition affects the moral views of the student, and, therefore, on the whole, of society. All moral effort has for its object the prevention of evil, and this is more effective than prohibition. Facts are always impartial and tend to overthrow preconceived ideas; they are placed before arguments and ideals, although arguments and ideals may seem more attractive. The investigating spirit arouses enthusiasm and love, but rigorously denies the unproven; conclusions are withheld until sufficient evidence is offered. In this respect the law of

scholarship opposes itself to the law of action. The man of action does not wait to weigh all evidence but acts on an insufficient basis. True scholarship weighs both sides of a question, and always gives its decision in favor of the side supported by the weight of the evidence offered, though the preponderance may be very slight. The spirit of investigation opens the mind to all truth and thus renders it impartial and trustworthy. Small problems should cultivate this freedom from bias equally with great problems.

Two prime causes of wrong action are wrong thinking and disregard of truth; and wrong thinking prevails in regard to those things not evidently criminal, though we can not assign this as the sole cause of crime. The criminal classes are most remote from this spirit of investigation, but as the law deals with crime in its last stages, we cannot always trace committed crime to its true source. Ethical and intellectual Education deal with crime at its source. Bodily assault has come into disrepute. Physical pugilism has been banished to the lower classes, while intellectual pugilism prevails among higher society. This kind is not always expressed in words, and can only be removed by the spirit of love manifest in all true scholarship. Misconstruction of thought and action, and character assassination, come from lack of ethical culture. The assassin of character is too often unpunished. Defamation of character prevails in pulpit, press and family, and cannot be too severely condemned. Still wider evils than these come from faulty intellectual action from reports not based on facts, or based on half truths. We are too apt to denounce public servants on insufficient evidence. Faithfulness in office should be rewarded, and evidence against character should be as carefully weighed as the conclusions offered by physical science. Political struggles will lose their bitterness, and civil growth will be attained, when careful and impartial scrutiny of men and measures shall prevail. Devotion to truth antagonizes self-love; since all personal convictions and predilections are exposed to the clear light of truth.

Pursuit of truth begets a moral courage equally important with the grandest facts that may be discovered. Darwin's investigations teach a moral lesson as valuable as the body of facts presented. Investigation calls into action certain noble qualities of mind, developing fixed habits of thought and disposition and displacing evil. Its effects are slow but all-persuasive.

WEDNESDAY MORNING.

Session was opened with prayer by the Rev. J. F. Dudley of Eau Claire, after which *America* was very effectively rendered by the Hayseed Male Quartette.

The president announced the following committees: On Enrollment—C. H. Keyes, O. E. Wells, E. G. Haylett. On Resolutions — D. McGregor, J. N. Humphrey, Miss Stella Lucas. On Honorary Membership — J. N. Steward, J. W. Stearns, Mrs. Elizabeth Sherwin. On Finance — C. F. Viebahn, A. J. Smith, H. L. Terry. On Nominations — A. Hardy, J. W. Livingston, Margaret Hosford.

The President's address, which is printed elsewhere, was then read.

R. G. Thwaites, Secretary of the State Historical Society, presented a paper on The Study of Local History, which he made to include state and sectional history. Most text books are tide-water histories—they are either ignorant of or else ignore Interior and Western local history.

Ninety-five per cent. of the children of Wisconsin never get beyond the grammar school, and any knowledge they may get of history must be drilled into them in these grades. The course of study need not be lengthened, but the teacher should be more fully prepared on local history, so that as the events of U. S. history are studied the contemporaneous events in the history of Wisconsin may be taken up in a conversational way, and the romantic events narrated will indelibly impress themselves on the minds of the pupils.

[We hope to present this admirable paper in the next number of the JOURNAL with some bibliographical additions which will guide teachers to sources of information on local history.]

Prof. T. B. Pray discussed "What can the Schools do to Cultivate Patriotism?"

The beginning of the public school is due to the idea that government by the people depends on the education of the people. Order, punctuality, prompt and obedience are a preparation for citizenship, and these secured induce perseverence and truthfulness. Every well-ordered school should teach, not directly perhaps — these virtues. Patriotism and religion may be taught thus: Patriotism may be developed by proper study of history,—not dry details, but such events as are likely to interest a bright boy. "If any man attempts to pull down

the American Flag, Shoot Him on the Spot," moves such a boy more than the recital of bare facts. Thermopylæ and Carthage are of every age.

The study of the growth of the government is to be taken up by the more advanced pupils, but the younger may learn something of the relation of the state to the nation, and of the processes that have produced the strong government of to-day from the weak confederation of our fathers. [We shall hereafter print the paper in full.]

Mr. Livingston emphasized Prof. Pray's definition of patriotism—"an *intelligent* love of country." The sentiment of patriotism, if it is to make a sturdy growth, must strike its roots deep down into a knowledge of our country's history. The beginning should be made in the home and should be continued in the school. An earlier and ampler place for history should be made in the school course. Boys should learn by heart Nelson's "England expects every man to do his duty," Nathan Hale's "I regret that I have but one life to lose for my country" and scores of other speeches that find for themselves a permanent place in the hearts of all true patriots. The teacher himself must be a *man* if he would impress and influence his pupils.

Dr. Stearns. A boy may not be able to pass an examination in history and yet have derived great profit from its study. There are 350,000 pupils in the state, and of these only 8,000 are in the high schools. Hence it is necessary to teach the history of the United States in the elementary schools. About fifty per cent. of the pupils in the primary grades enter the intermediate grades, thirty-three per cent. of those in the intermediate enter grammar grades; while about ten per cent. of grammar grade pupils enter the high school. Pupils in the third and fourth readers have a strong liking for history, and they should read and study it in school if we wish to make our people acquainted with the history of their own country.

Prof. Pray stated that 20 per cent. of students entering the normal school at Whitewater had studied history and about 6 per cent. had studied the constitution.

WEDNESDAY, P. M.

Prof. Chas. H. Chandler of Ripon college, read a paper on Modern Mathematics, meaning by the term new applications of mathematical truths. He discussed the subject under the two divisions of "Discov-

eries of New Truths" and "Improved Tillage of Old Fields," showing how long and tedious demonstrations might be shortened.

Miss Cornelia Rogers in a well written paper—"Shall we Teach Children to See what Is," made a strong plea for the cultivation of the senses, stating that the introduction of the pupil to the facts of natural science might be made pleasant, and result in forming habits of accurate observation and in developing an intense love of natural history.

"Farmers' Institutes as an Educational Factor" was presented by Hon. W. H. Morrison, superintendent of farmers' institutes. The farmers' institutes have done more than any agricultural college could do to give a knowledge of the subtle forces that underlie success in the farmer's work. The earth is God's University and its students are in the midst of countless problems, to the solution of which a knowledge of chemistry, of soils, of geology, of botany, and comparative zoology are necessary. 10,000 young men are each year entering upon farming in Wisconsin, and they should have some training for their work. Graded, consecutive instruction is an absolute necessity, involving both observation and study. A course of instruction by correspondence is advocated, entitling those who complete the course to a diploma.

Supt. Thayer stated that farmers were just beginning to realize that their children needed a more complete common school education to fit them for intelligent action as farmers.

Supt. W. H. Chandler said that the farmers of the state, after a full discussion of the question, had decided that a separate agricultural college was not only not necessary, but not desirable. Farmers are demanding that instruction given in the country schools shall be in the line of work their children are to follow, embracing so much of natural science as shall be of practical value. Farmers should be urged to send their sons to the State University for instruction in agriculture.

Pres. T. C. Chamberlin was glad to note that farmers had ceased wrangling and had come to discuss these questions intelligently. The instruction given by the state takes two forms: (1.) Bulletins from the Experimental Stations. (2.) Farmers' institutes. The work of the agricultural course is hampered by the defects in the common school course, and the wide gap between the common school course and the State University.

President W. D. Parker, offered the following resolution: "*Resolved*, That the Wisconsin Teachers assembled in annual conven-

tion hereby tender to the Managers of the Institutes for Farmers their most cordial sympathy, and we pledge ourselves not only that we will co-operate with the management in conducting its institutes, but also will most heartily aid in correlating the work of local schools with the institutes in those lines in which it is believed the wishes of the communities now tend, and in the work of reinforcing the matter and plans already inaugurated and of reforming methods now under discussion." The motion was carried.

WEDNESDAY EVENING.

Hon. J. V. Quarles delivered an oration on "The Schoolmaster and the State." Assistant State Supt. Chandler followed Mr. Quarles. Into the creating of the good citizen three forces enter, each supplementing the others: the school, the home, the church. Teachers ask that criticism of their work be based on observation not on hearsay; then no one will welcome criticism more than the teacher himself.

Rev. J. F. Dudley, of Eau Claire, then briefly addressed the association, showing the intimate relation between the school and the church.

THURSDAY MORNING.

After prayer by Rev. Mr. Lockwood, the committee on President's Address reported the following assignments: On "The Function of the State Department of Public Instruction"—W. D. Parker, J. W. Livingston, O. E. Wells.

On "Forces Available for the Development and Propagation of a better Educational Sentiment"—S. Y. Gillan, A. J. Smith, W. J. Brier.

The Committee on Honorary Members reported the following names: Hon. Geo. B. Shaw, Reuben G. Thwaites, Hon. W. H. Morrison, Hon. J. V. Quarles, Dr. Dan Milliken, Rev. J. F. Dudley.

Prest. W. D. Parker called for the report of the Committee on School for Feeble-Minded Children. Asst. Supt. Chandler said that the committee had framed a suitable bill, which had been rendered worthless by the addition of an amendment making the proposed school a hospital for *all* feeble-minded and imbecile persons. In its amended form the bill had been vetoed. President Parker moved that the committee on this school be continued with Mr. Chandler as chairman, and that the effort be made to secure the passage of a suitable bill. Carried.

A paper on Language Teaching in Grammar and High Schools was read by Supt. Anderson, of Milwaukee. Language Lessons, Grammar and Rhetoric are supposed to furnish training in the art of expression. It is taken for granted that sufficient drill will secure power to use English easily and accurately. The present method, dealing with analysis, and diagramming, is not satisfactory, since constructive power is not developed by such means. The only value of analysis is to find some marked excellences of statement, but the analyzing crank does not make this his aim. The present mode of teaching is upheld because the work of the pupil is easily marked in per cents. The basis of right teaching lies in practice suited to the age of the pupil. Punctuation and capitalization are looked to, and these are to lead up to systematic construction. The aim of the paper was to show the need of systematic instruction and the failure of mere grammatical rules.

Mr. C. F. Viebahn believed that the end of the present century would see the end of formal text book instruction, that fulness and completeness of expression should be secured, and that grammatical rules should be developed from examples used. Mr. A. Hardy agrees in the main with Supt. Anderson, but believes analysis and synthesis may go together, analysis affording a guide for criticism. Pres. Albee presumes Supt. Anderson does not reject formal teaching based on previous observation. Language is psychology at its foundation, it is the effort of one soul to express itself to another soul. Language is not something imported into the mind, it is simply the development of what already exists in the mind. We need to deal with all things reasonably. If the teacher were compelled to teach well from the text-book, failure would not be so common.

Supt. Anderson is not opposed to grammar, but insists on the right use of it. The rule should grow out of the construction, Milton and Shakespeare should not be used as material — the pupil should be made to express his own thoughts, not those of some one else.

Miss Jessie Christie read a paper on Does Education Educate?

In Cable's novel, Grande Pointe, Bonaventure teaches his pupils that to gain power over themselves and others is the aim of life. He taught the essentials: how to study, how to think, how to get knowledge, and to love one another and mankind. The term *education* is applied to the result of training; *to educate* means to develop all the faculties. Does education educate, develop? Children do not know howto wlak

properly. The health of the pupils is not looked after, and many must withdraw from school on account of sickness. Nor are the mental results more satisfactory; pupils burden their minds with useless facts. Grammar and arithmetic as taught are too obstruse. The bare details of history and geography do not make pupils grow intellectually or morally. The criticism of the paper was severe and reached to all departments of school work, calling for the abandonment of formal for vital processes.

The discussion of the report on the Elimination of Unprofitable Work from School Programs, presented at the winter session, was led by Prof. Stearns. He said two tendencies are apparent in current criticisms of our schools, one to charge waste in teaching the branches now in the curriculum and the other to demand the introduction of new branches. What should be taught is a sociological problem, since it is closely related to the needs of our communities. This century has witnessed three great changes, the expansion of civil liberty, the development of physical science and wonderful progress in the industrial arts; out of these grows the demand for three additions to elementary courses,—civics, science, and industrial training. But teachers say the programs are now over-crowded. Hence the importance of the question of waste. There should be developed principles to guide us in our criticism of courses. He suggested five: 1. Necessity, not to teach what is not necesary: 2. Combination, that exercise is most valuable which serves the greatest number of useful ends, and waste is doing a less useful thing in place of a more useful one which might be done. When we teach little we should teach much. 3. Utilization—in most studies when sufficient skill has been acquired to turn the knowledge to account further growth should chiefly be sought in using the acquisition for higher purposes. Reading, penmanship, geography are examples. 4. Self-help: throw the pupil as much as possible on his own resources, and rely on developing his resourcefulness rather than on fixing in his memory every detail he will need in life. Studies may be shortened when this resourcefulness can be as well developed by something else. 5. Intermittance: The mind develops with increase of years, and what is hard at one time is easy at another. It is not necessary then to keep marking time in arithmetic until the pupil reaches maturity, but he may drop it and do something else when he has reached the limit of present capacity, and return to it when he is older. It was shown how

the application of these principles would shorten work in language, geography, arithmetic and reading; and it was claimed that the time thus saved would be ample for introducing the branches demanded. On motion of Mr. Chandler the report was referred to the Advisory committee to be further studied and reported in writing.

The committee on nominations reported as follows: For vice-presidents, Mr. M. S. Frawley, Miss Cornelia Rogers, Miss Addie Neff; for secretary, O. E. Wells; for treasurer, W. S. Axtell; executive committee, Albert Salisbury, Mrs. Elizabeth Sherwin, S. Y. Gillan, L. H. Clark, J. M. Turner. An informal ballot for president resulted in Supt. Albert Hardy receiving a clear majority, and, on motion, the informal ballot was declared formal.

THURSDAY AFTERNOON.

Physical Education in Public Schools was the Subject of Dr. Milliken. The schools should furnish an all around development, not simply training in grammar and arithmetic. Intellectual education carries with it the danger of debility and disease, hence genius needs more blood and bones. Tendency to crowd into the cities is continually weakening our vigor. A mental degeneracy accompanies physical weakness: the city man is of quicker perception but the rustic is more observant, more reflective. The time needed for exercise can readily be found, and should be taken out of the recesses, if necessary. Health of muscle was shown to have an intimate connection with health of nervous system. Physical exercise develops moral qualities — will-power, perseverance.

Pres. Albee discussed the Physical Conditions of School Life. Physical laws are constantly violated in schools, because of our haste to get at results. Temperature and lighting of school rooms need to be looked after. The mind of the pupil should be calm, in order to do good work. Noise and confusion result in nervous waste, and this means loss of nerve power.

Prin. Dwight Kinney discussed School Libraries. Teachers in country schools must create interest in school libraries and overcome the disinclination of patrons to buy books. The recently enacted law relating to school libraries will greatly aid teachers, as it is mandatory and not optional.

Good judgment is necessary in the selection of books, but the list selected by the state supterintendent relieves the teacher of much responsibility.

The teacher must cultivate love of reading by directing attention of pupil to books that are best worth reading. A list of books appropriate to each grade and a record of the pupils who have read these books will prove a valuable stimulus.

C. W. Cabeen, Reporter.

NEENAH, WIS.

SOME PHASES OF OUR PROBLEM.

President's Address, at the Wisconsin Teachers' Association, July 4, 1888, Eau Claire.

THE FAILURE OF EDUCATION.

Mr. Oscar Browning, in the opening paragraphs of his little book on "Educational Theories," remarks as follows: "To those who begin the study of educational theories some preliminary caution is necessary. * * Education has always been a favorite problem with philosophers. Those who have wished to reform or to re-organize the world, meeting with many difficulties in the mass of grown-up people, have turned their eyes to the more hopeful body of ingenuous youth, whose minds are like white paper or pliant wax. If only the rising generation can be directed in the proper path, the regeneration of the race will be a reality instead of a dream. Experience ought by this time to have taught us that these hopes are misleading."

We recognize here a degree of truth. Every generation, in modern times at least, has expected great things from education. And every age, not excepting our own, has had sufficient occasion to bewail the partial failure of its hopes through the unsatisfactory outcome of its educational enterprises. Mr. Browning finds the reason for this, largely, in the law of heredity. He continues, "A child is born into the world with its faculties given to it once for all. No power can be put into it which is not there already. Its parents and a long line of ancestors have determined of what nature it shall be. As it grows up and we fancy that we can fathom its capabilities and guage its strength, we forget the countless capacities which lie hidden in the simple germ. The diseases and the eccentricities of our ancestors lie in wait for us at every new epoch of our lives. We pass, as it were, down the vista of a spec-

tral avenue in which our forefathers stand, ranged in counter lines, ready at the proper moment to lay their chilly hand on their decendant. Each year of life beats and molds the boy into the likeness of his father."

Without stopping to discuss how much of truth or fallacy there may be in this explanation, let us proceed to enquire whether there are not other reasons more easily amenable to human effort which conspire to lessen the net result of educational endeavor in these present days. Recognizing, as all must, that the bondage of heredity is not inexorable, that race-progress is not only possible but actual, that the son may become more than the father and escape the "chilly hand" of his ancestors, what reasons remain why education, considered as an instrument for the regeneration of the race, has so far failed of that result.

WHAT IS THE END OF EDUCATION?

I would suggest as the first reason why education has never accomplished all that was vaguely expected from it by sanguine minds, that *its true scope and end have not been fully conceived.* The earliest problems of educational science have not yet been fully solved. To this day we are in a turmoil of disagreement as to the what and the why of education. The battle between the partisans of the classics and the physical sciences, between humanism and realism still rages; and half the world—that world which has any care about the matter—is in sore doubt as to whether there is great value or none at all in those studies which but lately constituted the staple of all instruction and all that was accounted culture. The general tenor of the discussion now rife as to the value and the need of "manual training" forcibly illustrates how fluid and wholly uncrystallized are our ideas upon this primary question, "What is the *end* of education?"

Looking backward, we see, historically, that education has mainly been taken as merely the means to some partial and limited end, or utility,—ecclesiastic, scholastic, or materialistic,—to teach ceremonial, or curious facts, or useful habits. For the past thousand years there appears to have been, indeed, some gradual enlargement of the world's ideal of education, some slow progress towards the ultimate truth of it; but the popular conception is still low and vague.

There have been times when learning was sought not for what are now called "practical" ends but *as knowledge,* from simple delight in knowing. There *is* a time when the Philistine view pre-

dominates, and training is sought chiefly for its value in the struggle for wealth and station. Which ideal is finally to prevail, the scholastic or the utilitarian? Or shall it rather be a third, an ideal of which every age has had some foregleam, namely, that education is only the process of becoming one's best possible self, with whatsoever aid it may be possible for other men to bring?

Through more than one philosopher, we have become familiar with the proposition, "The end of education is complete living," a formula which would be admirable if only it were intelligible. But it happens, to our discouragement, that no two seem to mean the same thing by the phrase "complete living," and no *one* makes his meaning wholly clear. The "complete living" of Spencer is not that of Rousseau.

So far as I have been able to read the lessons of the history of education, nothing comes to me with such force as the ruling thought of Pestalozzi, partially embodied in those words in which he says: "From my youth up, I felt what a high and indispensable human duty it is to labor for the poor and miserable, * * * that he may attain to a consciousness of his own dignity through his feeling of the universal powers and endowments which he possesses awakened within him; that he may not merely learn to gabble over by rote the religious maxim that man is created in the image of God and is bound to live and die as a child of God; but may himself experience its truth by virtue of the Divine power within him; so that he may be raised not only above the plowing oxen, but also above the man in purple and silk who lives unworthily of his high destiny."

When I listen to this voice I feel that the true end of education is not undiscovered, and that we shall not get far beyond this visionary who, groaning over the condition of the Swiss peasantry, demands for them not political or material advantage, but the emancipation of the spirit, an education which shall raise them into the image of God and the consciousness of their own powers and the potential dignity of human nature.

I have faith that we shall all, some day, rise to this conception that education *is* a regenerative agency, and that its end is not knowledge, not skill, not power even, but the fruitage of all these in *personal value*, value to one's self and to all other beings. When the aspiring youth cries out, "I wish to be somebody, to amount to something," he

strikes, instinctively, the true chord, though the full force of his words may not be clear even to himself.

But it was not my purpose to attempt an unimpeachable definition of the end of education, still less to trace its various applications. I have only been trying to emphasize the importance of giving our most serious attention to this fundamental inquiry, on the correct answering of which depends the soundness and ultimate success of all education.

NATIONAL EDUCATION.

And here I crave indulgence for some consideration of what we mean, or ought to mean, by national education, and what it should include. The doctrine has been enunciated that the end of national education is national salvation, that it does not properly regard the individual as such, that it has no "subjective" office. It seems to follow with this that whatever aims only to supply to the individual what he wants for his own sake only is extra-national and out of the range of public effort.

This seems to me a narrow view in its disregard of the truth that the nation is nothing but the aggregate of its individuals. Whatever brings one individual one step farther into God-likeness is of value to the whole, and this does not at all contravene the truth that national education has important proximate ends in the collective and organic life of the nation itself. There is undoubted value in the saying of Wm. von Humboldt that "Whatever we wish to see introduced into the life of a nation must be first introduced into its schools." But this is, after all, perhaps, only another way of saying that whoever will affect the national life, must first affect the individual life.

THE NECESSARY THING IN EDUCATION.

What, then, are the necessary things in education? What are those elements of personal power and value which are of most vital importance to a human being in both his private life—if, indeed, any life can be private—and in his relations to society as an organism?

My efforts at analysis yield no better result than this: 1. The first value *in* a man and *to* a man is that of physical health, vigor and charm. It is, indeed, strange that so many minds are oblivious of so plain a fact. What makes a man so much admired or a woman so much sought after as bodily grace and beauty, the beauty that comes of health and the grace that is born of strength? What is so essential to all efficiency as

the physical force which is the basis of all human work? What sinful short sightedness, then, to neglect physical perfection and well-being, as the world has been doing for the past fifteen hundred years!

What educational revival is more necessary and more to be hailed than that which seems now to be dawning under the name of school hygiene and physical training? A revival opposed, as all reforms are fated to be, by the fears of the timid, the prejudices of the old, and, worst of all, by the inertia of comfortable conservatism, but none the less demanded by the present and future interests of the race.

The second element of the essential education is the intellectual one, *right mental habits and the power to think.* Quantitatively considered, knowledge is of but secondary importance. But there seems to be no way to give right habits to the mind and secure its growth in power, except through exercise in the acquisition of knowledge. Hence arises the inquiry, "What knowledge is most worth?" both in itself and as a mental stimulus and a producer of mental tension.

But this problem, important as it is, need not greatly trouble the teacher of children. The so-called "instrumentary studies" contain the knowledge which is most worth, because most necessary; and the chief problem is that of *securing thought.* Does not this truth need to be preached more widely and more earnestly than it ever yet has been —*not facts, but thought?* Let us continually sound in the ears of every teacher that to "see clear and think straight" is the sum of all intellectual values.

The third factor of what I am now trying to outline is the moral element, good behavior and the disposition toward usefulness. Of this, I wish, here, only to express the opinion that we are in the fashion, just now, of unduly depreciating the value of precept. I am not oblivious of the fruitlessness of dry, unassimilated precept and preaching; but I do believe that great help can be given young people by the thoughtful and suggestive elucidation of moral maxims, showing the foundations in reason and in practice on which they rest. And almost anything, even in the way of preaching, is better than the apathy and indolent inactivity into which the majority of teachers have fallen as respects moral instruction or definite effort at moral influence.

These, then, are the things which should be sought for every child of man, the foundations on which must rest all super-structure of true culture; and there are no limits to what national education may rightly build

on these foundations toward the end of large and noble character, of personal power and value. But if these things which seem so indispensable, physical well-being, the power to think, and right behavior, are not realized, if, still worse, they are not distinctly striven for, through general failure to apprehend the true ends of teaching, what wonder that education is so disappointing in its regenerative results!

OUR EDUCATION IS TOO CHEAP.

2. But there is another reason, removable no doubt but unremoved, for this partial failure of the schools which is "the burden of my song." Criticism of the schools is often shallow and more often exaggerated; but the fact remains that much, if not most, of our work is superficial, mechanical, and sometimes stultifying. And the reason for this lies proximately *in the unwillingness of our people to pay the price of sound education.* The work of educating begins too late and stops too soon. Parents shirk upon the school that training which should be given in the home, thus postponing the most important work of life, throwing it then upon poorly paid and, consequently, poorly qualified teachers, mere girls and boys without the first conception of what child nature really is or what its development demands. Then, before the mischief of this first mistake is half overcome, the hapless children are snatched out of school for the sake of the paltry revenue which may be extracted from the service of their youthful hands; or, worse yet, allowed to graduate into the street and the resorts of the idle. Thus between the indolence and the greed of, shall I say, the average parent, the schools are not permitted to accomplish the work of which they are even now capable.

The schools themselves are the victims of a wide-spread net of circumstances. The great expansion of education under modern ideals, the attempt to furnish school training to every child, has of necessity diluted the quality of teaching in general. Children abound, but genuine teachers do not. Were education only for the few, it might be possible to find enough Arnolds and Waylands and McMynns, men having the power to fertilize young minds, to serve the schools efficiently. But where shall the young commonwealth of Wisconsin, for instance, find 7,000 teachers who know how to build a man, who can teach youth to be well, to think, and to behave?

And here it is that we may see the mischief of an adherence to the knowledge-aim in education. So long as it is thought that the busi-

ness of the schools is only to communicate the elementary facts of human knowledge, so long it will be believed that anybody can teach children who knows more facts than the children do. There is a great dearth of teachers, though the people see it not. What is wanted, first of all, is men and women in the school-rooms. This is more urgent, even, than the discovery of ideal methods of work; for it *is* true, after all, that those systems are best which are best administered.

How, then, shall teaching be raised from its low estate? How shall parents, as well as teachers, be brought to an apprehension of the true ends of education? How shall the public mind be convinced that teaching cannot be safely committed to the hands of callow youth and adult incapables? How shall the people be aroused and informed as to the mischief of parsimony in education, and made to see that here as elsewhere efficiency costs money, and here as nowhere else the largest outlay is the wisest and pays the largest rate of profit?

Let us admit at once that this can not be done by scolding only. The placing of censure, however justly, is not a force adequate to cope with that imperfectness of comprehension and those elements of human nature which impose upon general education its present unsatisfactory state.

SOME REMEDIES.

I venture a few suggestions only as to what might be done here in Wisconsin, beyond what is being done, for the enlightenment of the public mind and the stimulation of the public conscience.

1. I venture in the first place to question whether our state department of public instruction has in the past fulfilled as it might the true ends of its existence. Our school law prescribes as the first of the duties of the state superintendent, that "he shall have the general oversight of common schools, and shall visit throughout the state as far as practicable, inspect the schools, *address the people*, communicate with teachers and school officers, and secure a uniformity and an improvement in the instruction and discipline of the schools." These are wise provisions, surely; but unfortunately the same statute imposes upon this officer certain burdensome duties which seriously hinder him from performing those most important functions just now enumerated. I refer to the imposition upon him of judicial duties, the burdening of his office with hearing and passing decision upon the petty squabbles of all the school districts of the state over building sites, district boundaries

and the thousand and one controversies peculiar to our ultra-democratic administration of educational affairs. If the whole tedious mass of "appeal cases" could be bundled out of the superintendent's office, he might perhaps find some time to "visit throughout the state, inspect the schools and address the people;" in short, to perform the reasonable functions of his important office. It was never meant that he should become merely the chief clerk of a machine for hearing local quarrels and distributing dictionaries. I count it a very hopeful sign that the present administration of that office shows a clear tendency toward assuming a true ministry of public instruction; but there is much yet to be done in that direction, much which ought to be made possible.

2. It is also open to question whether our higher schools are fulfilling their mission as leaders and potent influences in the strengthening and guidance of public educational sentiment. What are the colleges doing in this direction? Are any voices heard from within their walls exhorting the people to greater thoughtfulness and earnestness regarding the general education of our youth? Or are they sleepily content with teaching the select few who seek a preparation for the learned professions or for scholastic life? Why are not the college men here in this association, from year to year, lending aid in the solution of our wide-reaching problems? Has the head no need of the lower members, nor any responsibilities to them?

Has the State University been doing all that it should in this business? Has it sent any missionaries to the people, preaching of the value of education and its cost? It *is* now going out to the farmers to tell them how to churn; will it also tell them of the higher things? The Farmers' Institutes show evidence of great vitality, and it is greatly to be hoped that they may be so shaped in future as to serve the ends, in some degree, of general, as well as agricultural education.

Have the Normal schools, again, done all that they might for the public tuition? And have not the teachers' institutes, those missions to the Gentiles, become too narrowly centered on the immediate wants of the teachers themselves and too inconsiderate of the general public?

3. Other similar questions arise. Has the press, local and metropolitan, been put to service as it might? There is certainly no indisposition on the part of the editorial fraternity to being thus used. Has the state department, has this association, have the individual teachers of the state sought the co-operation of the newspapers as they should

for the dissemination of pedagogical truth and the cultivation of right educational sentiment? I need not stop to formulate the answer which only can be given.

Again, has the pulpit been allowed and encouraged to assist as it would willingly have done? The clergy are not indifferent to soundness of universal education. No body of men are more vitally concerned. Why be so suspicious of them and so chary of seeking their co-operation as we have often been?

Finally, all those who have given themselves to the work of education in any of its relations must redouble their efforts, both as thinkers and as preachers of sound thought. There is need of harder, deeper thought and less empty declamations; and when the truth is found it must be made evident to every one who has an eye to see.

I am aware that propositions such as these, if they have the fortune to be rated as anything more than common-places, may seem like prescribing ointment plasters for a palsied limb quite incommensurate with the desired invigoration; but, after all, is not this the most that we can do? That great aggregate which we call the public must be moved; but it will move no faster or farther than it can be made to see reason for moving.

To briefly recapitulate,—in the present, as in every age, education has failed to accomplish all that has been expected of it. This is due, in some measure, to the slow movement of universal forces, but largely to the lack (1.) of a clear and recognized ideal of the true end of education and (2.) the poor quality of the work done, the low estate of teaching, consequent on a low appreciation of the value and the cost of real education. The first want must be met to save confusion and the waste of misdirection, especially in the secondary lines of education. Meanwhile, for our great common, primary work, the ends may be clearly enough seen. But to teach children to be well, to think, and to behave, to be safe and strong in body, mind, and life, is a work for wise and thoughtful men and women. Such men and women can not be brought to so difficult and trying a work in sufficient numbers without more adequate recognition of such labor than has yet been given.

This recognition of education as a difficult and delicate work, and of its proper cost, can only be secured through the gradual enlightening of the minds of the great mass of fairly intelligent common people,

those who constitute the ruling element in our average communities. And whatsoever means there may exist for this work of public instruction it is our bnsiness to discover and our duty to employ.

Albert Salisbury,

WHITEWATER, WIS.

THEORY AND PRACTICE.

HOW THE COURSE OF STUDY FOR COMMON SCHOOLS WORKS.

[With a view to obtaining definite information as to the progress which is making in the introduction of the course of study into the common district schools of this state, we asked information from half a dozen county superintendents regarding their own field. The replies are published below.—ED.]

CALUMET COUNTY.

Only two pupils (Brant district, in town of Chilton) have formally finished the course of study for district schools. Taking into consideration the work I have done in that direction, the result is but very little encouraging. First—I find the greatest of difficulty in convincing teachers of the necessity and practicability of following the course. Second—Quite frequently such teachers as are willing to follow the course are succeeded by persons who do not care and by their indifference, if not opposition, entirely neutralize what their predecessors have accomplished. Third—Of the teachers engaged in this county in the year 1884-85, only one-third remained to teach during the year just ended. The places of those that left had to be filled mainly with young teachers who had no experience in teaching and little or no idea of the course. These are the principal reasons for the little success I have had.

H. SEVERIN.

NEW HOLSTEIN, WIS.

FOND DU LAC COUNTY.

In Fond du Lac county this year sixteen pupils took the course of study examination, and nine of them were successful. Half a dozen others took the teachers' examination, and two earned limited certificates. I am convinced that we would have a much larger number of graduates were it not for the existence of a preparatory department in the Oshkosh Normal school. Hitherto no conditions of admission were imposed, and pupils from our county who might profitably continue in

the district school went there in considerable numbers. During the year arrangements were made whereby those pupils who complete the course of study will be admitted to the high schools of the county without further examination. We hope that this policy, and a higher standard of admission on the part of the Normal school may result in a larger number of graduates from the common school course.

FOND DU LAC. THOMAS E. LYONS.

JACKSON COUNTY.

The course of study has been adopted officially in only one district in Jackson county. No pupils in the schools have as yet finished the course. Two pupils in another district where the course has not been adopted have completed the course, and several pupils throughout the county have mastered certain portions of the course. We are moving slowly in this line. Many teachers shape their work in accordance with the manual, and more is being done to systematize the work than can be made to appear in a statistical report. It will, however, require several years to place this county where many of the counties of Wisconsin already are with regard to the course.

MERRILLAN, WIS. W. J. HOSKINS.

MANITOWOC COUNTY.

The following is a list of the ages of pupils who completed the course of instruction for country schools and received diplomas this spring: [The list shows two pupils 13 years of age, one 14, eight 15, one 16, one 17, one 18 and one 20; four average 70 or over, five from 65 to 70, six from 60 to 65.] The others reached the required average, but each failed to reach the minimum in one branch. Two others reached the required standing in all, but their papers furnished indisputable evidence of copying and they were refused diplomas. There were fifty applicants, fifteen of whom succeeded. Very nearly one-half of those who failed came within a few per cent. each of the standing required. The examinations have been so conducted as to test the pupil's available, practical knowledge of the subjects. Many of the failures are due to the fact that the matter learned has never been subjected to the test of use. The child who can readily answer questions often finds it difficult to do the things of which his answer is a verbal description. A number of teachers are present at the examinations for the purpose of forming an estimate of what pupils should know and be able to do when the course is completed, and in many instances express surprise that the

readiness for doing, rather than the readiness to answer, is subjected to test. But it must be remembered that mental discipline is best secured by that thorough mastery of what is studied which makes possible the ready use of the facts learned.

Special preparation for the examination should be discouraged. The diploma is evidence of that mental power and of such acquirements as the child should have in order successfully to meet the demands of ordinary life and intelligently to perform the duties of citizenship. It is evidence that the work of the three forms has been dome properly and has given the child the mental growth and the command of faculties which makes the knowledge gained an instrument of ready use to the young person. These things cannot be accomplished by hasty reviews. They are the fruit of good teaching and honest effort. The course of study does not recognize the diploma as the realization of its purpose. The diploma is an attestation that the nine years' work of the district school has been so performed as to do the student the greatest possible good.

MANITOWOC. JOHN NAGLE.

SAUK COUNTY.

Twenty-eight diplomas were this year granted in this county to graduates of district schools. These twenty-eight graduates were from twenty districts, wholly rural, no diplomas being granted to pupils of village or graded schools.

Fifty-nine sets of papers were forwarded to me by teachers in accordance with directions. These papers were carefully inspected by me and in many cases re-marked. An average of 65 per cent. is required for a diploma. The total number of graduates in this county is one hundred and thirty-seven. I enclose a set of questions used in these examations.

I am confident that the course of study is gradually gaining ground with us. Schools are better classified than formerly, instruction is more systematic,records more complete,and the work is broader and more continuous. I enclose six reports of teachers, taken at random from a pile of one hundred and over lying before me. They are therefore about a fair sample of the reports of teachers of our country schools, and as I have visited these six schools this summer, I know the statements to be fairly accurate and impartial. They may be of some interest to you as indicating some lines of advancement. The answers to questions in these reports, I think, justify the conclusions:

1. The grading of country schools through the establishing of the course of study is receiving the attention of tsachers.

2. Progress has been made in the matter of school advancement.

3. Considerable pleasant and profitable employment is provided for the little ones.

4. Teachers' reading circle work is not abandoned in this county.

PRAIRIE DU SAC, Wis. E. C. WISWALL.

P. S.—I send a few specimens of "busy-work" which were sent to me with these reports. W.

TEACHERS' REPORT—SAUK COUNTY.

District No. 4, town of Reedsburg, for the term of three months ending June 25th, 1888, at $23 per month. Adell G. Damon, teacher.

No. of boys registered under 7 years, 33; 7 to 15, 3. No. of girls registered under 7 years, 1; 7 to 15, 6. Total 13. No. of pupils at beginning of term regularly in lower form, 10; middle, 2; upper, 1. No. of pupils at close of term regularly in lower form, 9; middle, 2; upper, 1. No. of pupils mixed at beginning of term, 13. No of pupils mixed at close of term, 11.

No. of days taught, 60, including legal holiday. Whole number of days attendance, 533½. Percentage of attendance, 70 +. No. cases tardiness, 14. Time lost by tardiness, 183 minutes. Names of pupils neither absent nor tardy, Dick Krueger, Fred. Krueger. Names of pupils tardy but not absent, none.

Were pupils registered by forms? Yes. Did you make the older pupils acquainted with the plan and purpose of the course of study? Yes. Have you a copy of the course of study manual? Yes. Did you frequently consult it? Yes. Did you conform your work to it? Yes. Did you examine for promotion? Yes.

What records did you keep besides attendance and punctuality? Progress of classes, standing. Where? In the register. What did you try hardest to secure in teaching—Reading? First comprehension of the thought, then expression of it. Writing? Legibility. Language? Correctness of daily use of it. Arithmetic? Accuracy. Supplementary matter was used in teaching? Reading.

To what extent were pupils required to answer in complete sentences—Always, except when drilling for rapidity. Were recitations animated? Fairly so. How was review work managed? Daily, and topical reviews.

Other than third grade branches taught, Physical geography. Was your teaching calculated to make pupuils observe? Yes. Think? Yes. Retain? Yes. Recitations were generally topical in geography, constitution, history. Written in spelling.

Were classes called out for recitation? Yes. If so, how? By a bell. Was communication tolerated? No. Rudeness or impoliteness? No. Profanity or vulgarity? No. Quarreling? No. How did you reduce tardiness? Had very little of it. Irregularity of attendance? Had little that was avoidable.

Was the teacher frequently with pupils on the play ground? Not very frequently. How was the school room decorated? House plants, cut flowers,

kindergarten work by the younger pupils. Appearance of the grounds improved? Not at all.

What was needed in the line of apparatus? Maps, globes, books of reference. Did you make these wants known to the board? Yes. Use what you had? Yes. How did you secure good ventilation? By means of windows lowered and raised. What means were used to employ the hands and brains of the little ones? Sewing, drawing, weaving, coloring pictures, slate work, etc.

No. of visits from members of the board? None. Average time spent daily for school? Eight hours. Self? Two hours. Are you pursuing the teachers' course of reading? Yes. Educational periodicals taken? American Teacher, Wisconsin Journal. Special sessions or memorial exercises? None.

VERNON COUNTY.

A great interest has been shown in the past year toward completing the course of study. I have issued diplomas of graduation to ninety-two persons, and nearly every school in the county is interested in the course of study.

ABOUT OBSERVING.

I am often asked to tell people how I see so much in the lives of the birds and animals, or in the face of nature about me. Though it is the simplest of arts, yet I suppose it is an art which cannot well be communicatad. It is simply a matter of attention. You must pay attention to what is going on.

It is not likely to play at the theater where everything is made conspicuous and aims to catch the eye, and where the story clearly and fully unfolds itself. On nature's stage many dramas are being played at once, and without any reference to the lookers-on, unless it be to escape their notice. The actors rush or strut across the stage, the curtain rises or falls, the significant thing happens, and we heed it not because our wits are dull or else our minds are preoccupied. We do not pay strict attention. Nature will not come to you, you must go to her; that is, you must put yourself in communication with her; you must open the correspondence; you must train your eye to pick out the significant things. A quick, open sense, and a lively curiosity like that of a boy are necessary. Indeed, the sensitiveness and alertness of youth and the care and patience of later years are what make the successful observer.

The other morning my little boy and I set out to find the horse who had got out of the pasture and gone off. Had he gone up the road or down? We did not know, but we imagined we could distinguish his

track going down the road, so we began our search in that direction. The road presently led through a piece of woods. Suddenly my little boy stopped me. "Papa, see that spider's web stretched across the road; our horse has not gone this way."

My face had nearly touched the web or cable of the little spider which stretched completely across the road, and which certainly would have been swept away had the horse or any other creature passed along there in the early morning. The boy's eyes were sharper than my own. He had been paying stricter attention to the signs and objects about him. We turned back and soon found the horse in the opposite direction.

This same little boy by looking closely, has discovered that there are certain stingless wasps. When he sees one which bears the marks he boldly catches him in his hand. The wasp goes through the motions of stinging so perfectly, so works and thrusts with its flexible body that nearly every hand to which it is offered draws back. The mark by which the boy is guided is the light color of the wasp's face. Most country boys know that white-faced bumble-bees are stingless, but I have not before known a boy bold enough to follow the principle out and apply it to wasps as well. These white faces are the males, and answer to the drones in the bee hive; though the drones have not a white face.—*John Burroughs iu July Wide-Awake.*

BLIND, DEAF AND DUMB.

Helen Keller, a bright well-grown girl of nearly seven years of age, with a clear complexion and pretty brown hair. She was quick and graceful, with a merry laugh, and fond of romping with other children. You wonder, don't you, how she can run about and play. Well she will play "tag" and have as great a frolic about it as any child you ever saw. She feels the vibrations of the ground by her feet, and so knows just which way to go, and what to avoid. Indeed, her sense of movement is very acute, and she tells often about going to church "to hear the organ play." She knows when it is being played, in the same way that she can tell which way to run in the game of "tag." The floor vibrates, and that conveys to her the knowledge of what is being done. It cannot be possible that she gets any real idea of sound in this way, although she must get the rhythmic flow of the music. How much she is able to realize of its beauty and harmony we never will

know, but there must be some charm about it, for she is very fond of it. Would you think that without the ability to hear the music or to see the steps, that she could learn to dance? It doesn't seem possible, does it? And yet she has learned; she was taught by one of her little companions who love her very dearly. She likes always to do what the other children do, and as they were dancing one day she wanted to join them. The little friend took her hand and tried to make her keep time with her in the step. But she could not manage it. Suddenly, as swift as thought, for, with this wonderful child, to think and to act are simultaneous, she slid to the floor, and motioning the little girl to go on with her dancing, she felt the motion of her feet and the bending of the knee. In a moment she was on her feet again, dancing merrily; she had caught the very spirit of the motion through her little fingers. And now dancing is a favorite diversion.

It is doubtful whether any one in possession of eyesight and hearing can arrive at little Helen's acuteness of touch and sensitiveness to motion. We depend on our eyes and ears, and do not call our other senses into full activity, and these "other senses" will best be studied in persons like this little Helen Keller. She can distinguish between the puppies of the same litter, and now since she has been taught to spell, will spell the name of each one as soon as she touches him. Her sense of smell is so keen that she will recognize different roses by their fragrance, and by the same sense she can separate her own clothes from those which belong to others. She knows if any one near her is sad. Seldom will physical pain make her cry, but she will discover quickly if a friend is hurt, or ill or grieved by her conduct, and this knowledge will make her weep bitterly.

Her teacher says that one day when her brother was coming toward them, as they were walking, Helen knew it, spelled his name repeatedly and started in the right direction to meet him; and that she gives the names of people she meets walking or riding as soon as their presence is recognized.—*Sallie J. White in July Wide Awake.*

In German countries it takes two centuries thoroughly to do away a folly — one to recognize it, and one more to do it away. The *views* of a consistory always become rational a hundred years sooner than its order.

EDITORIAL.

It was the general judgment of those in attendance that the meeting of the Wisconsin Teachers' Association at Eau Claire was one of more than usual interest and earnestness. The subjects discussed were of vital importance and the talk was practical and closely related to the needs of the times. The fact that the Fourth of July occurred during the session was fortunate. It kept before the body the relations of the schools to citizenship, and led to a serious consideration of the ways in which our common schools might, in the lower grades, contribute much more than they now do to making their pupils familiar with the history and institutions of their own country. The criticism of present courses and practices was severe, perhaps at times excessively so. When criticism opens the way to reform it is useful ; when it simply depreciates our work it may be only discouraging and confusing. One thing was fairly apparent—that we sadly need some definite standards of criticism, some constructive work which shall serve to guide experiments, and help us not merely to eliminate what is unsatisfactory, but also to introduce what is needed in matter and methods. The meeting showed an absence of the mere academic essay and a disposition to grapple with the really important and vital problems of education. The discussion of farmers' institutes, language work and eliminations from school programmes, as well as the admirable presentations of the physical side of education were exceedingly helpful and inspiring.

The attendance at the association this summer was, unfortunately, smaller than usual. The absence of county and city superintendents and of representatives from the colleges was especially noteworthy. There were, of course, reasons why county superintendents from distant parts of the state did not appear, and perhaps the regular meetings of the superintendents now provided for by law may make the association less important to them than it has been. We hope not. There is a growing feeling that college men care nothing at all about the general educational work of the state. They are rarely present at these gatherings unless assigned a paper, and still more rarely take part in the discussions. Special efforts have been made time and again to draw them into the association, but the result is discouraging. They have no heart in the matter and perhaps no help to give us—certainly they feel no responsibility in the case. City superintendents are still more derelict. Those who are teachers and superintendents are on hand, but the city superintendents, who do not teach, except in the case of Milwaukee, seem to consider themselves purely local officials, with no interest in the doings of the association, and nothing to gain for themselves or the schools under their charge by participating in the discussions. Are not some of our city school systems suffering in consequence of this isolation ? Can one broadly and wisely direct the educational work of a city who does not interest himself in educational movements and grow by contact and discussion with others ?

SOME district schools are not only well attended, but attended by mature pupils from fourteen to twenty years of age; others have few pupils and those very young. In Manitowoc county, for example, the reports of graduation from the district schools show that of fifteen who received diplomas only two were under fourteen years of age. This indicates the attendance of a considerable number of persons between thirteen and twenty years of age. Reports from five district schools in Sauk county, which happen to lie before us, shows one school having seven pupils between fifteen and twenty, while only one other has any such, and that but a single person. It seems to us a question deserving of study, whether, and to what extent, the policy of districts regarding their schools causes these differences. Where there are in the district no persons of the ages specified who might attend, that district should be omitted in making up statements and averages to discover the causes of non-attendance. It seems worthy of study whether the kind of teacher employed or the public sentiment in relation to the school has not considerable to do with this difference. Under the grading system our district schools ought to be able to prepare their pupils for any of the neighboring high schools. If they can once come into this relation to the high schools a local pride in them will spring up, which will not only keep the pupils in the school, but lead the authorities to be more critical and careful in the employment of teachers. There seems to be no good reason why at least half the districts in Wisconsin should not be graduating pupils from this course of study, fitted to enter upon high school work. The advantage to the districts would be very great. Farmers' children could then, while living at home, secure a good elementary education, and the increase of expenditure over that made to secure present unsatisfactory results would be trifling. Suppose that the kind of teacher needed must be paid $5 a month more than is now given, the sum in the aggregate is very small compared with the total expense of the school, and the gain to the district is very great—in other words the investment is an exceedingly good one. County superintendents, school teachers and district officers can do a great service by presenting this case properly to the electors, and trying to substitute for the present narrow policy of making the smallest possible expenditure the more rational and economical one of making the expenditure which will bring the largest proportional returns from the outlay.

AN animated and very suggestive discussion has been going on in New York over the re-election of Supt. John Jasper to his position as assistant city superintendent of schools. Mr. Jasper was re-elected by a small majority despite the earnest opposition, but the incident reveals very clearly the new and advanced ideas of the work of superintendence which have developed during the last dozen years. The discussion revealed the fact that the incumbent is a thoroughly old-fashioned city superintendent. He attends no educational gatherings; does not write or speak on education; does not inspect or visit the schools; he employs his time marking examination papers, computing per-

centages and doing clerical work. Meantime the educational world has advanced to new and more wholesome ideas. It has learned the narrowness and hardness of the training begotten by these methods. The "interviews" with the most prominent and able educators, which have been published in the New York papers, contain such judgments as the following on the schools developed under this management: "Our system does not properly educate, and is conducted too much on the principle that the teacher's work is to cram the pupil with hard facts." "The school system in this city is nothing more nor less than a magnificent piece of machinery, crushing out, whether designedly or not, all individuality, and tending to repress all the natural activities of the pupil. Uniformity is the thing aimed at, and the uniformity achieved is that of mediocrity." This tendency, which fortunately is now encountering a very vigorous and determined opposition, is not confined to New York, and Supt. Jasper is not its only representative. Hard and fast courses of study, with examinations, and rigid markings and rulings upon these markings, will always and everywhere kill out originality and produce the uniformity of mediocrity—the most baneful result possible of public education. Such educators talk about thoroughness, and honest work, and so on, but the scholarship which they develop is musty. The modern superintendent is wide awake and progressive, a man of affairs, who studies the schools under his charge to give them the freedom, diversity and enthusiasm of life, entrusts clerical work to subordinates, and reckons examinations, and averages, and courses of study of secondary importance—means to be used with caution and discretion for attaining, with other forces, the fullest development of vital interest and spontaneous individual growth possible among the pupils under his charge. The movement in New York has not ended with the election of Supt. Jasper, but seems likely to result in the overthrow of the Board which elected him, and the ultimate triumph of a totally different system from that now in vogue.

Do not isolate yourself. A young man just from college or a Normal school secures a position as principal of a small high school. He is a good teacher and a good manager, and his success is such that the position is offered him year after year. He is following the maxim, "Seek success by doing good work," and he does good work year after year. But he does not attend teachers' institutes or teachers' associations. He never contributes anything to a public gathering or to an educational journal. He therefore remains to all outside the town an unknown man. Other young men have opportunities for advancement, take larger schools, professorships, other advanced positions; but opportunities do not come to him. His success in his own work is good, but it does not bring him a wider field. He sometimes wonders why it is that fortune never favors him, feels that he is cramped, regrets that he has ceased to grow, but does not recognize that he has thrown his limitations about himself. He has isolated himself. But growth and opportunities come from mingling with others, contributing to public movements, being a citizen not only of a town but also of a county and of a state.

OUR DRAWER.

MILWAUKEE LETTER.

The Course of Study—Relations of the Normal and the High School—Changes in Salaries—The County Teachers' Association—Commencement at the Normal—At the High School.

The meeting of District Principals held on May 25 was, like the preceding one, occupied in the discussion of proposed changes in the course of study; but the similarity extends no further. The monotony of an otherwise tame meeting was somewhat broken by a dispute between two of the principals, which added perhaps as much to the amusement of the listeners as it detracted from the dignity of the proceedings. Commissioner Richardson being present was called on to speak, and made some pointed and sensible remarks, taking the ground that those actually engaged in the work, the principals themselves, are better able than members of the board to suggest needed reforms in the curriculum. Prin. White attaches but little value to the average man's judgment, but has great respect for the average judgment of men; he proposed a plan by which to obtain the opinion of the principals as a body by employing the law of averages as exemplified in the marking system or in the principle of multiple photography. Each member should indicate on a uniform and definite scale his estimate of the value of each study in the course, and from the average of these records a scale of comparative values could be deduced. The suggestion met with general approval.

At the meeting on June 8 the special topic was the relation of the Normal school to the city schools. President Maple of the Normal school was present and took part in the discussion. On the question whether it would be wise to lower the standard required for admission so as to allow graduates of the Milwaukee high school to enter upon the one year course without examination, he took the ground that the efficiency of the professional work and the value and recognition which attach to the diploma alike demand a sound basis of scholarship as a condition precedent to undertaking the short course. Principal Peckham thought it useless to examine high school graduates in algebra, because it is so long since they pursued the study they have forgotten most of it. He was somewhat taken aback to learn that some "country" high schools send out students able to face the ordeal of examinations and to establish excellent records in the branches pursued. President Maple thought we stand in some danger that the reaction against the oldtime vigor, with its stern requirements of work, may carry us too far and so enervate the pupils that they will shrink even from reasonable tests. In this opinion he was heartily and ably seconded by Principals Funk and Donnelly; but the general sentiment of the principals was favorable to the establishment of a lighter normal course, which the average high school graduate might complete in a year, the chief argument being that such a plan would put into the city a larger number of trained teachers.

The primary principals, and the teachers of the sixth, seventh and eighth grades, have received handsome recognition from the School Board by way of increase in salaries. The former are henceforth to receive $1300, instead of $1200, and the latter $650, $700, and $900, respectively. The German teachers and the district principals, however, are to receive less than heretofore, the salary of the former having been reduced to $1100, the latter to $1700. Principal Tiefenthal, of the second district primary, is still to receive $1500, but when his place becomes vacant, his successor will be appointed at $1300. Commissioner Tooley took a decided stand against this discrimination, and argued that salaries should be determined neither by a procrustean scale according to grades, nor varied for merely personal reasons, but that each should receive an amount proportioned to the value of the service rendered. He did not indicate, however, in what manner he would have the relative merits of teachers determined.

The last meeting of the Milwaukee County Teachers' Association is reported as the best of the series held this year. The experience meeting, in which a number of teachers gave a *resume* of the year's work under the topics, What I undertook to do, What I accomplished, Wherein I failed, Wherein I succeeded, was a new feature and was well received. A friend who was present suggests that the elimination of certain parts of the exercises which smack of the country "lyceum" or "literary" would improve the professional tone of the meetings of the society. It must surely be no more edifying than appropriate for a company of teachers to listen to a declamation through thirty weary minutes. To memorize a doleful funeral oration, and pour it out upon a patient audience is cruelty, and can hardly be justified on the ground of benefiting the declaimer.

The closing exercises of the Normal school were presented this week. On Wednesday and Thursday occurred the Regents' examination, and on Thursday evening the class exercises. The latter proved highly interesting to those of the audience who were able to hear them, but a number of those who took part were deficient in that prime requisite of the public speaker, the power of making one's words audible at a reasonable distance. The literary merit of the papers was exceptionally good, and in the history and prophesy the witticisms were well aimed, and seemed to be appreciated by those intimately acquainted with the school. On Friday the diploma was awarded to twenty candidates, and the class was addressed by Prof. Freeman of the State Uviversity, who in an able and carefully written address presented the subject of higher education.

The alumni banquet in the evening closed the exercises.

At the high school graduating exercises the diploma of the school was conferred upon thirty-nine students, representing the various courses. Philip W. Huston, Albert Heyn and Miss Elinor Rounds were chosen to present public exercises, and did themselves and their teachers great credit both by the matter and the admirably clear and forcible manner in which they delivered their

essays. Many of the audience were disappointed when it was announced that Assistant State Superintendent Chandler, who had been announced to deliver an address, could not be present. I. C.

QUESTIONS FROM THE STATE EXAMINATIONS.

ENGLISH GRAMMAR.

December, 1886.

1. Give the principal parts of (*a*) sit and set; (*b*) lay and lie; (*c*) flee and fly; (*d*) choose, hang, drink, thrive, ought, will. (*e*) Give the principal parts of the verbs to which these forms belong: lost, shod, clad, wrought, cleft, besought. (10.)

2. Explain the differences in meaning between each of these pairs of sentences: (*a*) I understand what road he means; I understand which road he means. (*b*) Which of the ways is the best; which of the ways is the better. (*c*) We feel warm; we feel warmly. (*d*) The eye which sees all things, sees not itself; the eye, which sees all things, sees not itself. (8)

3. Correct those of the following sentences which you consider wrong, and give reasons for your corrections: (*a*) Who should I meet but my old friend. (*b*) Please excuse my neglect. (*c*) Sailing up the river, the whole town may be seen. (*d*) Nothing but frivolous amusements please the indolent. (*e*) I meant to have asked him his name. (*f*) We have only had one letter from him since he has gone to Boston.

(*g*) "Resolve me why the cottager and king
Him whom sea-severed realms obey, and him
Who steals his whole dominion from the waste,
Repelling winter blasts with mud and straw,
Disquieted alike, draw sigh for sigh." (12)

4. Explain grammatically the ambiguity in each of the following sentences, and reconstruct each so as to express clearly both meanings: (*a*) The duke yet lives that Henry shall depose. (*b*) Unlike the croakers of our day he recognizes no good in any one that he cannot see. (*c*) He claims to be working for the temperance party, which is really being injured by his actions, and is unwilling that any one else should take his place. (*d*) I accomplished my business and returned the following day. (12)

5. Parse the italicized words in the following: (*a*) I go *a* fishing. (*b*) *Full* many a gem of purest ray serene, the dark, unfathomed caves of ocean bear. (*c*) He giveth his *beloved* sleep. (*d*) *There* fell a heavy frost that *night*. (*e*) Hope springs *eternal* in the human breast. (*f*) The *herald* lark upsprings at early morn. (*g*) The foe and the stranger will tread o'er his head, And *we far away* o'er the billow. (*h*) The gale had sighed itself *to rest*. (*i*) We next asked *him* his *name*. (15)

6. Make clear all difficult portions of the following passage by analyzing or parsing those parts only which require such treatment:

"Powers and Dominions, Deities of Heaven,
For since no deep within her gulf can hold
Immortal vigor, though oppressed and fallen,
I give not heaven for lost. From this descent
Celestial virtues rising, will appear
More glorious and more dread than from no fall,
And trust themselves to fear no second fate.
Me, though just right and the fixed laws of heaven
Did first create your leader, next free choice,
With what besides, in council or in fight,
Hath been achieved of merit; yet this loss,
Thus far at least recovered, hath much more
Established in a safe, unenvied throne,
Yielded with full consent." (25.)

7. (*a*) He walked four miles in an hour. Parse miles, and put the sentence in the passive voice. (*b*) What grammatical values may the following words have? Illustrate each in a sentence: *as, round, fast, what clear.* (*c*) Fill out the following with the appropriate pronoun: It is neither.....nor.....that is wanted.....do men say that I am. Let not him boast that puts his armor on, but.....that takes it off. (10.)

8. (*a*) State briefly your opinion as to the importance of studying grammar, and your reasons for it. (*b*) At what age should the study of grammar, be begun, and why? (8.)

(The number in parenthesis at the close of each question indicates the full credit which will be given for a correct answer.)

ENGLISH GRAMMAR.

December, 1887.

1. Write the plurals of cargo, folio, 8, beef, penny, brother, affix, fish, man-servant, criterion. (*b*) Give the possessive plural of the following common nouns and the possessive case of the proper nouns: lady, sheep, wife, conscience, deer, Harkness, The Harpers, Sheldon & Co., Jones, The Browns. (10)

2. State the different functions or uses of the noun in sentences. Write an example of each. (10)

3. (*a*) Give the principal parts of the verbs lay, sit, flee, must, do, raise, may, be, eat, awake. (*b*) Write a synopsis of the verb *be*, first person, singular. (10)

4. Correct the following, giving reasons for the changes: (*a*) A fondness for show is, of all other follies, the most vain. (*b*) What do you suppose it to be? (*c*) Gutturals sound harshly. (*d*) I can only regard them as Scotticisms. (*e*) What did you say was the product of nine times eight? (10).

5. Supply pronouns in the following: ——— that honor me, I will honor. Let him be ——— he may, I am not afraid of him. She was neither better nor wiser than you or ———. Such a man as ——— could never be President. Are you taller than ———? Do you speak so to me, ——— who have so often befriended

you? We kept silent, ——— and I. My father allowed my brother and ——— to accompany him. Could it have been ——— who did the mischief? She is a lady ——— will interest you. (10)

6. Parse the italicized words in the following: (a) *Let me live* a *life* of faith. (b) We *were promised* an *office.* (c) Tears such *as* angels weep burst forth. (d) Though he *slay* me, I will trust in him. (e) His *making* money is no *proof* of merit. (13)

7. Give a complete classification of sentences and elements of sentences according to the system of analysis you employ. (10)

8. Analyze:

"Never delay
To do the duty which the hour brings,
Whether it be in great or smaller things;
For who doth know
What he shall do the coming day?
This moment is for thee;
The next perhaps, thou wilt not see." (17)

9. Make your written answer grammatically correct, including punctuation and capitalization.

The number in parenthesis after each question indicates the full credit for correct answer.

ENGLISH GRAMMAR.

June, 1887.

1. (*a.*) Write the plurals of mouse, pony, cannon, pence, deer, analysis, staff. (*b.*) In the following, substitute the possessive case for the construction with the preposition of: "He saw heads everywhere—heads of men, dogs, sheep, reptiles, fishes and cherubs." (*c.*) Give the principal parts of buy, can, cleave, chide, ought, fly, burst, lie, take, set.

2. Correct the following and give your reasons for the changes which you make: (*a.*) We found that neither of the ropes which he had brought were strong enough for our purpose. (*b.*) If it was my own I would lend it to you gladly. (*c.*) It is a long time since he has visited the school. (*d.*) How far did you say it was to the town? (*e.*) Give to every syllable and letter their proper sound. (*f.*) Choose the least of two evils.

3. Parse the italicised words in the following: (*a.*) "The ploughman *homeward* plods his weary *way.*" (*b.*) "I was born not three hours' *travel* from this *very* place." (*c.*) "One touch of nature makes the whole world *kin.*" (*d.*) "Hope springs *eternal* in the human breast." (*e.*) "Men may live *fools,* but fools they cannot die." (*f.*) I saw him *run.* (*g.*) You need not *tell him* what I said.

4. Analyze the following, beginning with the second line:

"Come to the window, sweet is the night air!
Only, from the long line of spray
Where the sea meets the moon-blanch'd sand,

Listen! you hear the grating roar
Of pebbles which the waves draw back, and fling,
At their return, up the high strand,
Begin and cease, and then again begin,
With tremulous cadence slow, and bring
The eternal note of sadness in."

5. Which of the following forms are correct, and why?
(*a.*) How elegant (elegantly) she looks!
(*b.*) Will (shall) we be allowed to enter without delay?
(*c.*) You may (can) do as you please, said the teacher.
(*d.*) You would (should) prefer to be manager, should (would) you?

6. Explain grammatically the ambiguity in each of the following, and reconstruct the sentences so as to show both meanings of each clearly: (*a.*) John Smith is busy picking shot from his face that was intended for a rabbit. (*b.*) I saw some black and white horses in the pasture. (*c.*) Lysias promised his father never to abandon his friends. (*d.*) He wished to take his friend with him to visit the capitol and to study medicine.

7. State distinctly the reasons for studying English grammar. "That the leading object of the study of English grammar is to teach the correct use of English is, in my view, an error." *Prof. Whitney.* What do you think of this opinion?

8. (*a.*) Why should sentential analysis be taught? (*b.*) "Grammar should be a reflective study of language." Illustrate clearly the meaning of this, and state your opinion regarding it, with reasons.

IGNORANCE AND—TEACHING.

[It seemed to us a service to the schools of the state to bring to light, for full discussion, the views expressed in the letter published in the JOURNAL for June under the title "Wanted Ignorant Teachers." These views are advocated by honest men, who do not look closely enough into the workings of our school system to see the mischievous results to which they lead. These persons,—and they are not few nor do they work single-handed—these persons wish to save money to their districts, which is well; but they overlook the fact that an unwise economy is often the worst form of extravagance. Their policy in demanding that examinations be made less stringent so that they can get cheaper teachers will not bear intelligent examination. The publication of that letter has moved one of the progressive superintendents of the state to write us the following, which, with its enclosures, we are glad to make public. For obvious reasons all names are suppressed, but the correspondence, printed just as it is written in spelling, punctuation, and so forth, is a striking evidence of the value of the service which a faithful superintendent renders to his county and the reasons for the hostility which he frequently has to encounter.—ED.]

DEAR SIR:—In your June issue you have an article entitled "Wanted Ignorant Teachers," which has elicited considerable comment among your readers here.

It is certainly a plain exposition of the views which prevail quite commonly in the rural districts. In my experience I have met many district boards and other (even influential) men who advocated the same theories as are set forth in the letter asking for a poorer grade of teachers.

Various schemes to secure their ends are often resorted to by these men, and even by persons who by some hook or crook have managed to creep into a position as school keepers. The deplorable conditions, as well as the detestable means, of which some unprincipled persons make use, should come before the public. Political tricks, promises and so-called *bright prospects* are often offered for granting an official favor (?) to certain individuals,—the sons or daughters of corrupt and degraded town politicians.

The enclosed letter, received from an individual who had *kept* a school in this county, previous to my coming into office, shows how degraded men can become. You may make such use of it as you deem proper.

KIND SIR:—As I have been sick since and before, the teacher's examination I could not, and was not, able to attend the teacher's examination, and I was sorry for it to. For I have got to be at work all the time for I have my Father and Mother to support, and I am canvassing for a nursery now this summer to get along and I can not stop one day. And so I want to ask you if you will make me out a certificate to teach this winter and if you will tell me how mutch you charge for it. And I will send you the money for it and I will be so glad if you will. I have hard work to get along I have to keep on working all the time. Whether I feel well or not my Father can not do anything any more. His name is A——— M——— he is an Odd Fellow. So if you will make me out a certificate so I can get a school. I have taught four years. I will pay you for it. Close, write soon. ——— ———.

I replied to this letter that I would under no circumstances grant a certificate to any person, whether friend or foe, unless he passes a satisfactory examination on all branches required. Judging from the orthography and grammar of his letter he would certainly fail to get even a 25th grade certificate.

KIND SIR:—I received you letter June 13th inst., and was pleased to hear from you but I wish that I had of went to the examination this spring then may be I would have got one but I could not write one word at that time nor could I sit up hardly I was so bad but I am now well and selling nursery stock for my health this summer, traveling is good for me. Now I would like to as a personal favor between us two just no one else will know it on my part only you and I. I will give you $5.00 cash if you will grant me a certificate for a year to help me along this winter I want a school just for this comming year then I am going of to an nother part of the world. So do your best Mr. L——— to help me I have had lots of trouble this last year and I want to get a chool. Send one if you will or can personally to ——— this week as I will be there selling trees all this week before the 4th of July and I will send you $5.00 for it send it as quick as possible that is if you will be fore school meeting is for they will hire soon now and I will do so mutch for you sone time to help you, close. ——— ———.

OUR BOOK TABLE.

WOOD-WORKING IN SCHOOL.

FIRST LESSONS IN WOOD-WORKING, by Alfred G. Compton. Ivison, Blakeman & Co.; 188 pp. Introductory price 30 cts.

A manual for common school instruction in this subject seems to be what is needed to make it possible to introduce wood-working generally into city schools. This we have in the neat and practical little volume before us. It is not concerned with the discussion of the theory of manual training, nor with setting forth the plans and methods of the manual training schools. Its object is to tell what to do in the common school and how to do it. Its author is in charge of the workshops of the College of the city of New York, and handles his subject like one whom experience has made thoroughly familiar with all its details. The tools employed, the materials used, and the technical terms which occur are all such as are familiar to the mechanic, and they are here made familiar to the pupil. Beginning with a description of wood-working tools, the action of each is explained and illustrated so clearly as to lead to an intelligent use of them by the pupil from the start. The knife, the hatchet, the cross-cut saw, the jack-plane, the smoothing-plane, the back-saw, the bench-dog, and the chisel are in turn introduced, and their use not only adequately explained, but their operation fully illustrated by a variety of work, which the pupll is called upon to perform with each.

The structure and strength of various woods are discussed, together with methods of testing them. Working sketches and working drawings to scale, are explained and illustrated with sufficient fullness to enable the pupil readily to follow the diagrams required by the course, or to make similar drawings for himself.

The book seems to be a sufficient guide to details of the work so that any teacher who has but little experience in the matter, simply by seeing to it that the pupils do faithfully what is prescribed for them, and understand thoroughly what is here explained for them, might make shop-work very profitable in his school. Any intelligent boy, with the book in hand and a bench to work at, might train himself into workmanlike skill. Such a book ought to make the extension of industrial training in our schools easy and rapid.

—STORIES OF OTHER LANDS, by James Johonnot, makes the second part of book third of Appletons' Historical Readers, (232 pp.) They are well told stories from the history of Spain, France, Central Europe and England, with stories relating to the development of art, science and industry, added—a very delightful and instructive reading book of the third reader grade.

—ARABIAN NIGHTS, (Ginn & Co.; 366 pp.) edited by E. E. Hale, is the latest issue in the "Classics for Children" series. It contains twenty-eight stories from the original, some of which, as the preface truly says, "have become so

completely a part of modern literature that ignorance of them would be considered indicative of dullness." It is this circumstance, in addition to their fitness to interest young readers, which makes the effort to introduce them into the schools so commendable.

—CÆSAR'S ARMY, A study of the Military Art of the Romans in the last days of the Republic, by Harry P. Judson, (Ginn & Co.; 127 pp., $1.10,) opens to the ordinary student of Cæsar's Commentaries a wide range of interest and investigation. The author has worked out in detail from the Commentaries, using as aids the best modern authorities on the subject, a complete account of the organization, armament, discipline, and tactics of Cæsar's Army, to which he has added an account of "naval warfare, and of the warfare of the races whom Cæsar encountered." His constant references to the Commentaries make the book an interpretation of them, and the illustrations, maps, plans etc., are abundant and admirable.

—LIVING CREATURES OF WATER, LAND AND AIR, by John Monteith, (Van Antwerp, Bragg & Co.; 208 pp.) is the second of the McGuffey Natural History Readers, and designed for the fourth reader grade. With original matter are mingled many selections relating to animals from the sponge to birds. The illustrations are admirable both for execution and accuracy, and the book is one of the most attractive we have seen. It would be an inspiring treasure to any intelligent child.

—THE CIVIL SERVICE QUESTION BOOK, (C. W. Bardeen, Syracuse, N. Y. 282 pp.) gives another illustration of the reflex influence of examinations. It is prepared with especial reference to the examinations for places in the United States Service now covered by the Civil Service law, of which there are more than thirty thousand. Its author claims for it that it just covers the field; touching in arithmetic, geography, etc., no more topics than are covered by the examinations, and accurately adjusting its questions and answers in letter-writing and book-keeping to the demands of the commissioners. How serious a matter a little superfluous learning is, to be sure!

—BRIEF VIEWS OF UNITED STATES HISTORY, by Anna M. Juliand (C. W. Bardeen, Syracuse, N. Y. 68 pp.) contains, we are told, "the essential facts in remarkably consise and forcible form;" i. e. it is a book of dry facts, bare facts, —a book which may be useful in the hands of a good teacher, but is easily put to mischievous uses.

—ORAL INSTRUCTION IN PRIMARY GEOGRAPHY (C. W. Bardeen 29 pp. 15 cts.) is a very brief and meagre outline.

—LOOMIS' PROGRESSIVE MUSIC LESSONS, No. 5 (Ivison, Blakeman & Co.; 248 pp.) completes this valuable series of school music books. The series is thoroughly progressive and admirably adapted to the needs of our schools. This book has no theoretical part, necessary instruction having been given in the earlier numbers, but presents an extensive selection of excellent musical compositions, such as elevate the taste and refine the nature. The poetry also is worthy of its place, being usually elevated in sentiment and excellent in struc-

ture. The book is less difficult than the well known Glee and Chorus book, and arranged in three parts with base not too low or difficult for the boys to sing. About one third of the book is given to sacred music and the remainder to glees.

—NEW PLANE AND SOLID GEOMETRY, by G. A. Wentworth (Ginn & Co.; 386 pp.) presents an old favorite revised and enlarged. The book has been entirely re-written and in some parts changed in order and made more concise, but in general retains all the features of the other edition. More than seven hundred exercises have been added, constituting the chief additions.

—DESCRIPTIVE GEOMETRY, by Luns Faunce, (Ginn & Co.) is a draughtsman's vademecum. Besides the ordinary problems of descriptive geometry, it includes a number of practical problems, showing the applications of the prinples of the science to the practical work of draughting. The work is clear, concise and practical.

—Ginn & Co. have issued in their "Classics for Chrildren" series SCOTT'S LAY OF THE LAST MINSTREL, edited by Margaret A. Allen, (144 pp.) The book is provided with a map of the scene of the poem, with brief but sufficient notes, and with an index.

—A HISTORY OF THE AMERICAN PEOPLE, by Arthur Gilman, (Inter-State Publishing Co., 668 pp.) we have found to be not only an exceedingly well-written and interesting book, but also very discriminating as to the material selected for it. The main lines of development are clearly traced, the changes in the habits and manner of life of the people happily presented, the march of inventions and improvements, of settlement and material growth is vigorously outlined, the establishment of the principles of our government and the unfolding of them by the progress of events is set forth with remarkable clearness and effectiveness. Almost half the book is given to the national history, a marked improvement upon the usual practice of school histories. Indeed, take it all in all, Mr. Gilman's History of the American People seems to us better adapted to the needs of high school classes than any other history with which we are acquainted.

—EXERCISES IN ENGLISH, by H. I. Strong, (D. C. Heath & Co., 92 pp., 35 cts.) will be a great favorite with teachers who know the value of much practice in acquiring correct habits of speech. It is not a grammar—merely exercises, and chiefly exercises in correcting false forms. We hope its use will help to put to flight that eminently silly notion which some sentimentalists have sown broad cast over the land, that false syntax has no place in school. Every sensible teacher knows by experience that it has a large place, and is, indeed, the most effective means of cultivating a critical habit in the use of language.

—LESSONS IN ENGLISH, by Sara E. H. Lockwood, (Ginn & Co.; 403 pp., $1.25) was made by a teacher of English in the New Haven, Conn., high school to meet the wants of her classes. It includes the more important facts regarding the history and elements of the language, common errors in the use of English, the study of words, sentences, figures of speech, punctuation, letter-

writing and composition, with biographical sketches of seven American authors. The book has abundant practical exercises.

—SEASIDE AND WAYSIDE No. 2, by Julia McNair Wright, (D. C. Heath & Co.; 175 pp.) continues the delightful and simple sketches of animal life which made the first book so original and attractive a reader for beginners. This is older, of course, as the little reader is, and will open his eyes to a world of interest lying all about him. No more charming natural history readers have been published than these two.

—CHEMICAL PROBLEMS, by J. P. Grabfield and P. S. Burns, (D. C. Heath & Co.; 87 pp.) is a valuable exercise book for the student of chemistry, who will find problems relating to all the chief practical topics he is studying. Half the book is devoted to examination questions in chemistry.

—COMPOSITION AND RHETORIC BY PRACTICE, by William Williams, (D. C. Heath & Co.; 238 pp., 85 cts.) as the title indicates, is in the main a book of exercises, devised to give the beginner abundant practice in correct composition. It does not, however, neglect the principles, as each exercise is designed to enforce and ingrain into the habits of the pupil a select number of laws or rules.

MAGAZINES AND NOTES.

—We wish every teacher of geography in Wisconsin could read the opening paper in *Scribner's Magazine* for August on "Rivers and Valley," by Prof. Shaler. It ought to show teachers how to make this study more significant. The American Locomotive and Cars is not less striking than the previous numbers in the railroad series, and full of valuable information.—The August *Atlantic* almost deserves to be called an educational number. Mr. Horace Leudder's Literature in the Public Schools is a vigorous plea for the more generous use of American literature in reading classes. President Eliot's very suggestive paper on "Can School Programmes be Shortened and Enriched" is the most helpful criticism of present work we have seen in a long time. It bristles with practical suggestions. We shall refer to it more at length next month.—*Harper's* bewitches one with its illustrated travel articles. "A Midsummer Trip to the West Indies," "The Montagnais," "A Cheswick Ramble" and "Studies of the Great West," this month devoted to Cincinnati and Louisville.—The *Popular Science Monthly* discusses the tariff question by means of a witty allegory. "The Octroi at Issoire, or a City Made Rich by Taxation," written by David Starr Jordan. Herbert Spencer's paper on "The Ethics of Kant" will command the attention of scholars. "The Injurious Influences of City Life" is also a striking paper.

—"That Manual of Astronomy," by Prof. Young, which Ginn & Co. announce, will be awaited with much interest, as Prof. Young has demonstrated his power to make a vital book on astronomy. D. C. Heath & Co. have ready a collection of twenty-five models and twenty-five photographs by N. S. Shaler, Wm. M. Davis and T. W. Harris, Instructors in Geology in Harvard college, de-

signed to show the principal features of the superficial aspects of the earth's crust, with extensive text descriptive of each figure, prepared for the use of beginners in geology. They also announce an illustrated primer for deaf children, showing the latest phases of teaching them.

—Among D .C. Heath's announcements Compayre's *Lectures in Pedagogy* will be expected with great interest and will soon appear. The second volume of Dr. Bernhardt's excellent *Noveletten Bibliothek* will contain six short and sprightly stories by the best German writers. *The New Arithmetic* is the work of three hundred prominent teachers, and ought to be excellent.—Ginn & Co., will soon issue Benjamin Franklin's Autobiography, with notes and continuation of his life, by D. H. Montgomery. They also announce Byerley's Elements of the Integral Calculus.—A. S. Barnes & Co., have in press the fifth edition of Gen. Henry B. Carington's "Battles of American Revolution," with additional notes and illustrations.—Noble Deeds of the Fathers, as Told by Soldiers of the Revolution is the title of a book for supplementary reading and school libraries soon to be published by Lee & Shepard, Boston.

NEWS AND NOTES.

—The attendance at the Summer School for Science, in Madison this year reaches forty-eight. The opportunities for laboratory work in botany, geology and chemistry are highly appreciated, and draw to the school mature and experienced teachers who wish to take advantage of the laboratories and assistance here placed at their disposition. It would be hard to find in the West elsewhere facilities for science instruction equal to those at the State University, and the throwing of them open during four weeks of the summer for the teachers of the state to use under the direction of the professors is the most significant and important movement for the improvement of science teaching in the state which has ever been made. If the school can be continued the effect of this four weeks of summer work will soon be felt all over Wisconsin. It is eminently desirable that a physical laboratory, suitable for similar work by those who expect to teach this branch, should be opened in connection with the school as soon as possible. We hope some arrangements may be made before another summer to give the school an assured and independent place among the educational institutions of the state, and to add this and some other important features to it.

—The following persons were enrolled in the summer school this year: F. W. Barker, Galesville; J. W. Burton, Hudson; Lafayette Bliss, Henderson, Minn.; J. W. Burns, Richland Center; R. E. Blount, Oregon; E. G. Cooley, Cresco, Ia.; L. L. Clark, Prairie du Chien; L. S. Cheney, Barron; J. A. Eakin, Brodhead; C. M. Fox, Grand Rapids; Albert Guttman, Manitowoc; Otto Gaffron, Plymouth; Mrs. Gaffron, Plymouth; L. E. Gettle, Edgerton; W. R. Hemmenway, La Crosse; H. D. Hesse, Milwaukee; Susie Jones, Racine; C. S. Johnson, Waukesha; J. A. James, Lancaster; K. A. Kasberg, Stoughton; Dwight Kinney, Black River Falls; L. E. A. Ling, Cresco, Ia.; Mary M. Lakin, Milwaukee; E. C. McClelland, Juneau; M. H. McMahon, Kewaunee; E. R.

More, Milwaukee; Hattie Merrill, Milwaukee; W. L. Morrison, Florence; J. W. Nesbit, Durand; May Nickel, Waupaca; Anna Nelson, Milwaukee; Ida Olson, Milwaukee; C. R. Pickering, Muscoda; Mrs. C. L. Place, St. Paul, Minn.; J. D. Rouse, Lyons; P. H. Shaughnessy, Milwaukee; Emma S. Skewes, Ives' Grove; Flora Sterling, New London; Ella Sterling, New London; Rose Schwendener, Milwaukee; C. H. Sylvester, Whitewater; J. A. Taylor, Stanbury, Mo.; Anna E. Tarnutzer, Madison; Hattie Thomas, Madison; Susan M. Williamson, Madison; E. W. Walker, Black Earth; G. F. Tuttle, Madison, Dak.; W. A. Hodge, Marshall.

—At the annual school meeting at Fort Atkinson a sum of nearly $2,000 was voted for physical, chemical and other apparatus for the high school. Prof. Emery writes: "We are to have fine separate working laboratories for physics and chemistry. Means for laboratory work in zoology will also be at hand. Fine rooms for an office, library, reading room and museum are provided for also in the new building. The walls for the basement are laid, and the brick and carpenter work are to begin at once."

—Supt. Hoskins, of Jackson county, writes us as follows of one of the subjects discussed at the Eau Claire meeting: "With respect to the study of United States history, as discussed at Eau Claire, I will simply state that fifty of the eighty-three schools of this county have pursued the study during the past year. But out of the fifty schools so pursuing it, not ten can be said to do really good work. My examinations have shown me at least that the teachers themselves do not understand the subject, and are consequently unable to render beneficial instruction."

—The enrollment of the public schools of Merrillan during the past year has been 325—an increase of twenty-five over any previous year. At the last annual meeting the school board were authorized to organize, at their discretion, another department to accommodate the pupils of the primary grade.

—From Merrill, where J. G. Adams is principal of the schools, we learn that the school census of this "City in the Woods" shows a school population of 1,322, an increase of 161 over last year. The records show that 938 different pupils were enrolled in the city schools during the last school year. Eleven teachers have been re-elected and five new ones will be employed. Furnaces, ventilating apparatus and dry air closets will be placed in all the buildings. The high school room will be enlarged and three new school rooms are in process of construction.

—The following changes of school principals have come to our knowledge during the month: E. W. Walker goes to Black Earth; E. T. Johnson to Unity; H. C. Curtis to Waupun; C. M. Fox to Grand Rapids; J. W. Burton to Hudson; R. B. Hazard to River Falls; O. J. Schuster to Lodi; J. E. Hoyt to Columbus; E. R. Johnson to Boscobel; C. H. Sylvester to Whitewater; George B. Smith to Appleton; W. J. Hoskins to Merrillan; James Goldsworthy to Prescott; G. W. Bollinger to Waterloo; J. A. James to Darlington; C. G. Woolcock to Westfield; E. W. Pryor to Peewaukee.

—In at least two cities in this state the growth of school interests has been so considerable during the past year as to lead to the election of the principals of the high schools, who have heretofore combined teaching with the work of supervision, to be superintendents, giving their whole

time to the direction of the city schools. In Madison W. H. Beach becomes city superintendent, and W. M. Pond becomes principal of the high school. In La Crosse Albert Hardy becomes city superintendent, and it is understood that W. R. Hemmenway succeeds him as principal of the high school.

—News of the National Association is very meagre as we write. The attendance is reported large, but we judge not so large as for the last two years preceding. As was to be expected much enthusiasm has been awakened among the Pacific States, and the local attendance is excellent. Miss Johnson, a graduate of River Falls Normal school, while in attendance at the association died quite suddenly of heart disease.

—The busy work from the Sauk county schools, which we have had the pleasure of examining through the kindness of Supt. Wiswall, shows how easily kindergarten devices and sewing can be introduced by district school teachers, and really good results attained. Here is a variety of designs worked on paper with a needle, done neatly and well, little ornamental articles and various forms of kindergarten work, which would be no discredit to city schools. Why are not our district school teachers more generally progressive in this matter?

—We noticed Goff's Historical Map of the United States in our last issue. It is to be hoped that some Wisconsin schools will be ready to use it, and the advertisement elsewhere for agents will attract the attention of those interested.

—A number of high school commencement programs have found their way to our table, and are filed away for future reference. Although our space does not permit notice of each one we assure our friends that their remembrances are not overlooked and we should be glad to receive one from every high school in the state. They are of more than local interest and a comparison of them would be a profitable study.

—The Second ward high school of Manitowoc has at present sixty alumni.

—The fall institute list is a large one, fifty-four being already on the list. There are four in Grant county and two each in Sauk and Juneau counties. This is a wise policy in large counties. There are but ten lasting longer than one week.

—Our Young Folks' Reading Circle is a new national organization, of which S. R. Winchell, 106 Wabash Av., Chicago, is manager and the Board of Directors are: Rev. Lyman Abbott; William H. Rideing; Dr. John Bascom; Frances E. Willard; Mary A. Livermore, and Prof. J. W. Stearns. Its object is to help boys and girls who wish to read the best and most interesting books, to accomplish their desire. It will provide a course or courses of interesting reading, and organize local circles for mutual help. Circulars giving full particulars will be sent to any one desiring them by the manager. Annual membership twenty-five cents. It is a praiseworthy enterprise, and deserves to meet with great success.

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PATRIOTISM IN THE SCHOOL.

The American public school is indebted for its beginning, and as well for its present magnificent development, to a belief that government by the people depends upon the education of the people. The limited course, if ~~such it can be called~~, of the early schools was perhaps sufficient to put each scholar in possession of the means of competing fairly well with his fellows in the struggle of life; and of acquiring wider culture, and of fitting himself for every office of peace and war to which he might be called. As the conditions of life have become more complex, the same scant preparation has long since ceased to be as effective, relatively; moreover a conviction has steadily deepened of the true economy of a more thorough and complete development of human faculties and the acquisition more quickly than through tedious and costly personal experience, of a large amount of knowledge necessary for successful management of human affairs. Hence to the three R's we add grammar, Geography, History, Physiology, and many more kindred subjects. The natural result is, that as the matter to be taught has increased in variety and amount, the attention of both teacher and pupils has been more and more directed to the *details* of the work, to the neglect of the great purpose of the school. Pupils go to school to learn grammar, not to acquire a mastery of their national language; to study geography, rather than to become acquainted with the character and extent of the resources and productions of their native or adopted country, and its relations with the rest of the world. So a demand has arisen that special effort be made to secure the great end of the public school, to fit future citizens of the republic to discharge all public, as

well as private, duties and obligations; that we add to our already crowded courses of study one more distinct line of work which is necessary to justify the existence of all the rest.

Our own state made an effort many years ago to accomplish this, so far as can be done by law; but through the failure of most teachers, to observe the law, countenanced and supported by the neglect, not to say hostility of school officers higher in authority, very little has thus far been accomplished by direct positive effort in this direction. Indirectly, however, every properly organized and well managed public school is a most effective instrumentality for inculcating and developing all those fundamental virtues on which good popular government must rest. Here the young citizen learns that promptness in the discharge of his daily task, punctuality in attendance upon all exercises of the school, obedience, prompt and respectful, to the constituted authority of the school in all lawful requirements, are conditions of satisfactory progress. Fidelity to the work assigned meets its accustomed and proper recognition, while the neglect or slighting of any portions is followed by loss, and perhaps disgrace. In the school room, and on the common play ground, the poorest and meanest clad of all the boys is taught most thoroughly that a man is man for all that; that honest labor and spirited performance, and worthy achievement meet with a proper meed of praise and respect; that one's own strong right arm must carve his fortune, and that neither the name or the sword of his father or grandfather will entitle him to leadership in this generation if his own muscles be flabby or courage weak. He can be at the head of his class by *deserving* to be; and if he be leader of the mischievous element, he is only "by merit raised to that bad eminence." So justice and equality are impressed alike upon the son of the millionaire and of the cottager, teaching humility in the one case and independent self-respect in the other.

And so to our catalogue of virtues incidentally taught in the public school, which must form the basis of noble private character and public honor, order, punctuality, obedience, justice, respect for equality of rights, we may add perseverance, truthfulness, and the whole long list; and while instruction may be given directly, designed to enforce all these upon the attention of the school, our present contention is, that without such specific design, by the necessities of the case a well managed school, conducted by competent teachers must continually teach, by indirection, but not the less effectively for that reason, that success of the

higher and worthy sort is only attained by observing these common rules of life sanctioned, as they are, alike by religion and all human experience. Attention is here given to this phase of school work, because it is a distinct service to the state of incalculable value, which is too frequently overlooked by the public in their estimate of the services rendered by school and teacher simply because "Patriotism" and Religion have no distinct place assigned on the daily program.

Our country, right or wrong, may be a good cry for some purposes; and there may be times when it will not be our duty to question or "reason why; ours but to do and die." But if we believe that with nations as with men, truth is mighty and must prevail, that the eternal years of God are hers, then no course in politics, bearing upon our relations at home or abroad, can be considered wise, prudent, and deserving the support of sincerely patriotic citizens, except it be founded on the principles of eternal truth and justice. So in answering the question "What can the school do to cultivate Patriotism?"

I would say first that genuine patriotism is not born of ignorance, nor petty selfishness, nor narrow provincialism, nor blind partisanship, but consists in an intelligent love for, and devotion to, one's country. In ages gone by we might have said "devotion to one's native land," but no American dare use that narrowing epithet in view of the countless instances of wise, courageous, and self-sacrificing devotion on the part of adopted citizens of this great Republic during all the hundred years of its history. The intelligence by which the growth of this sentiment is fostered is chiefly secured in these several ways.

1. By the study of History. In the earlier years of school-life interest is most easily aroused and attention riveted upon the subject by a selection of those topics that appeal to the imaginations of children; voyages of discovery, privations, struggles, and conquests of the pioneer settlers, military achievements in which the action is of more importance than the plan of campaign; a vivid presentation of the dramatic incidents and soul-stirring achievements outranking any political complications which were either cause or effect. There are times in every boy's life when "A little more grape, Capt. Bragg" or "If any man attempt to haul down the American flag, shoot him on the spot," has more of inspiration in it than a volume of orations devoted to glorifying the flag and praising the bravery of the United States. The first is a comprehensible concrete thing, the latter a dry and spiritless abstraction.

Hence give prominence to great achievements and even to noble attempts, through failures, with the object to arouse admiration for, and provoke to emulation of, deeds of heroic valor. Nor need we at this stage trouble ourselves too much about dates or boundary lines.

Thermopylae and the charge of the Light Brigade, the defense of Carthage and the capture of Quebec belong to no age or country. Whatever is great, or noble, or admirable in each is appropriate food for the young American, and he may safely be permitted to indulge his voracious appetite. But care should be taken that our own history be made to yield its due and abundant store, in order that love for our own country in whose service such deeds were done and whose interests have been advanced at so great a cost, may be developed; and so the generous emotions aroused in the young mind and heart, be nourished and invigorated by definite rooting in our own soil. Surely the Charter Oak and Louisburg, Yorktown and Lookout Mountain, Valley Forge and Libby Prison, belong to the boys of '88. Nathan Hale was one of our own compatriots, and sympathy for Major Andre's sad fate only intensifies our hatred and loathing of the traitorous schemes of a Benedict Arnold. His dark deeds and miserable life only serve as a background to enhance the brilliancy of patriotic self-sacrifice. So much for the juvenile section.

The more advanced course in History, will necessarily lead to a study of Government. The causes of the revolutionary conflict and of our terrible Civil War cannot be studied effectively without much reflection upon the motives that govern political action; and the development of the truth of some principles of government that were violated by Great Britain in the last century, with the loss of her great American empire: and were violated also by ourselves in the present century with such momentous results as can not yet be fairly estimated. We shall trace the growth of our government from the simplicity and almost absolute freedom of early colonial days, to the present complex and still-changing system; wherein rights are curtailed and freedom restricted on every side, by our own consent, for which our fathers would have fought valiantly. Would the independent old sea-captains of Boston and Baltimore have ratified a constitution that permitted Congress to fix the rates of compensation for carriage of passengers or merchandise? By tracing thus the several stages of our political growth, we learn how true it is, that the people rule: how obedient is this vast and mighty

creature of government to the voice of the people. We learn of the source of its strength and its weakness, of the vital relation between the individual and the state, and thus only, realize fully, that *we are* the *State.*

Of course the methods of accomplishing this work must vary in different schools. In the high school and graded schools, a regular course of instruction at a stated period is possible, using suitable text books. The proper place would seem to be after a course in U. S. History, to which this in Government should be a supplement. The matter should embrace the Constitutions, both state and national, a history of political parties, their rise and fall on questions of Constitutional interpretation or Governmental policy: a knowledge of the actual business of government, the duties of the several departments and bureaus thereof, of the character of questions of taxation and finance: and of the ways in which Government actually touches *us* in our daily life. For this purpose the public documents so lavishly distributed and contemptuously cast aside, may be of service: pupils may be set to study the work of a single department, of government, or a single bureau, or a single election of U. S. Senator, and so get precise and definite ideas of governmental operations as a basis for the generalizations which alone can find place in a text book. If one result of this scheme is to give pupils more than usual information on a single subject, and so awaken more than passing interest in special forms of political action and thus lead to continued study of special subjects out of school, no small gain will result in the aggregate to the intelligence of the people regarding public affairs.

In the district schools, the subject is a more difficult one, because the program is so crowded, that text book recitations hardly find a place in schools in which all these forms are fully represented. It would seem necessary here to lay great stress on the method of topical recitation and general exercise to be participated in by all of the school, and largely confined to study of current events of a political character, and reference of such events to proper constitutional authority. Caucuses, and conventions local and national, town-meetings and elections of all kinds are appropriate themes, if taken at the right moment, and the acquaintance with some participants will serve to quicken the general interest in the subject. Care must be taken of course not to betray party feeling or political bias, and in general it would be safe in

dealing with current events to state fairly the views of the party whose action is under examination, leaving criticism or comment to the class or the larger public outside.

Events like the meeting of the fisheries commission, or the assembling of a new Congress, or publication of President's Message should of course be seized upon, in order that pupils who have access to newspapers may have their appetites whetted, and discrimination sharpened, to select that which intelligent people the world over are reading about. It is perfectly clear that by this method of treating current events neither the country school nor high school would have the same topics to deal with from term to term, or year to year, so that no two successive classes would have the same course of study, but the end to be aimed at is not the acquisition of a certain definite amount of information about the Constitution, nor the ability to quote it verbatim, but intelligent interest in government, and knowledge of the sources of information. This end can well be attained with a flexible school course almost as varied as the subjects which engross the attention of thinking men. One other result should be constantly aimed at, besides intelligence, and that is such a love of truth as will make the campaign liar as offensive to his party friends as to his opponents, and such a love of justice as will condemn bribery and trickery by which we are to profit as quickly as that by which we are to lose. I want no man to teach my boys American History, who deals with the Indian wars in such a way as to kindle their admiration of the courage and valor displayed and their horror at the atrocities committed by the savages, and fail to portray the shameful greed and breaches of solemn pledges by the civilized nation. Let him not call the Mexican War glorious; nor teach that separation was never thought of north of Mason and Dixon's line; nor that our present theory of National Government is the original and only fair interpretation as agreed upon by all parties at that time. In short, let us teach to love truth, in politics, as in religion, and science, for its own sake; to weigh arguments and facts with judicial fairness and to recognize that liberty does not mean as so many seem to suppose, the right to agree with the majority. To differ, is the right of a free man and to yield his judgment, as well as his action, to the control of the majority, the act of a slave. This is no small nor inviting task for the schoolmaster to assume, but nevertheless it is his sacred duty. The occasions which may be specially utilized for cultivating the emotion of

patriotism, seem to be the distinctively National holidays. Fortunately they come for the most part within the school terms. First in the year is Thanksgiving, which has taken on a domestic and family character quite unique, but which may yet well serve to awaken interest in the history of the early settlements of the colonies, the motives and meagre resources, the trials and achievements of the Pilgrim fathers; and in their self-denial and lofty ambition for self-government, we may find our own virtue quickened and strengthened. As this holiday belongs to the colonial period, so Washington's birthday carries us back to the revolutionary struggle and our early constitutional period. Memorial Day may fitly show that the age of heroic devotion and sacrifice extends even to our own day, and that our Puritan sires need not blush for their sons. If freedom and union were won by our ancestors, they were also preserved at no lest cost by our fathers and brothers.

Thus each day has its distinctive characteristic, relates to a particular epoch of history: and they are separated from each other by suitable intervals of time to permit adequate preparation for appropriate exercises by the school. I need not tire you by naming the poets and orators who have celebrated in song and inspired eloquence the valor and virtues of our people: but for every occasion there is an abundant literature of such variety and excellence as to leave nothing to be desired. We can well afford to revive the old Friday afternoon Rhetoricals not to teach oratory, but to foster the growth of patriotic feeling through attempts to give suitable expression to noblest sentiments. That music may lend her aid, let us add to the repertoire of every school a goodly number of national songs, which may be sung with spirit and enthusiasm, and confidence born of familiar knowledge. The recent revival of war song concerts is a step in the right direction, and the warm reception accorded them by the people is a sufficient proof that they touch responsive chords in young and old.

A display of suitable pictures at such memorial occasions is a feature not to be neglected, and the current illustrated periodicals provide timely and appropriate designs, and the store of photographs, engravings and illustrations in books, furnished by any community, can readily be utilized by the teacher who can interest the school and secure hearty co-operation. But let no one hope for success in this line who is not willing to plan and work for it. And so let the schools feast their eyes upon flags and banners and pictures and sacred relics; their souls may

be stirred by martial music and spirited national song; their young ambition be given proper direction by declamation of patriotic eloquence and fervid oratory; their pride in their national institutions increased and placed on sure foundation by a knowledge of the origin and growth of the nation and its brilliant, if brief, history; and their sense of personal power and responsibility quickened by a comprehension of our scheme of government. Thus may our national system of public schools become most truly the nursery of citizens and statesmen.

T. B. Pray.

WHITEWATER, WIS.

TEACHING PATRIOTISM.

I like that definition that makes patriotism an *intelligent* love and devotion. Every electric spark that flashes from the human heart has its origin in the brain. Out on the dry hillside with its thick, glossy, green leaves, unscorched by the burning sun, unharmed by the terrible drouth, there stands the stately burr-oak. The farmer boy who has grubbed such trees can tell you of the straight strong tap-root that sinks deep down into the cool, moist mother earth. If partriotism or any noble sentiment is to have the strength and sturdiness of an oak, there must be a vigorous tap-root sunk early into life-giving knowledge.

One May morning some twenty years ago, a boy learned a lesson, painful at the time, but helpful since. Ten acres of wood-land had been cleared during the winter and the brush piled in great heaps, and our boy looked eagerly forward to the fun of burning it. A few words of wise counsel and he was left monarch of all he surveyed. Armful after armful of straw had soon been brought and placed under the largest pile, the match was applied, and flames shot up, causing the branches to snap and crackle. The boy's heart grew big with the pride of his achievement as he looked on, but when the flames died away leaving on that great pile little more mark than was found on the men who walked the fiery furnace, keen disappointment took the place of pride. After several fruitless attempts, our boy did as you and I often have to do—sat down to think about it. Although he did some vigorous thinking and tried many ingenious expedients, the usually welcome dinner bell had that day no music in its tone, for not one pile had disappeared.

After dinner the lad's declaration that the brush was *too green to burn*,

was met by a wise, kind smile from one whose hair was streaked with grey. A very little straw, the smallest, driest twigs, and then the match applied. Slowly we feed the fire and watch its growth; but now there is no time for watching. The hungry, devouring monster is aroused, and we both cannot feed him half fast enough to satisfy his greed. The largest, greenest branches vanish in his great red throat while he roars for more.

The experience of the clearing has many times found analogy in the home and the school-room. Parent and teacher may kindle and feed but cannot force loving, devoted loyality — be it to God, or Home, or Native-land.

Just now some of our papers talk as if placing the flag in our school would solve the problem of producing patriots. The mere presence of a Bible in the book-case at home does not make our children religious; no more will the presence of our national flag in the school-room make them patriotic. There may even be danger of making the flag a common thing, or allowing familiarity to breed contempt. But if the school atmosphere is permeated with a spirit of sincere love for Fatherland, the flag may become the center around which cluster many tender memories and in which centers the noblest sentiment of patriotism. At home in our Lower Grammar room hangs a small flag, and the children of that room certainly seem to love it. In that room sits a girl whose father was the brave standard-bearer of his company. One day while talking with the pupils about the story of the flag, I asked Nettie, if her father had ever told her about carrying the flag. It was touching to note the little woman's enthusiasm as she told about the flag her father had borne, and it was instructive and pleasing to watch the intensely interested faces of the other children as they listened to her story.

In our schoolwork there should be an earlier and ampler place accorded to history (and biography); in it there should be less of date and more of men. The boy of ten may not understand the philosophy of history, but the pulse of his growing manhood will beat responsive to the heroism that inspired Leonidas at Thermopylæ, Horatius at the Bridge, Robert Bruce at Bannockburn, Joan of Arc at Orleans, Cromwell at Marston Moor, Wolfe at Quebec, Wellington at Waterloo, Washington at Valley Forge.

Let our youth early learn how good a thing is a noble, patriotic life,

and how far and long its beams shine in this world of ours. From the story of such lives as those of Solon, Aristides, Washington, Lincoln, they will learn the loftiest lessons of patriotism, and of human life. Let the Spartan mother's "Return with it or upon it," "Come ye as conquerors or come no more," Nelson's "England expects every man to do his duty," Patrick Henry's "Give me Liberty or give me death" Nathan Hale's "I regret I have but one life to lose for my country," and similar noble words coming from hearts aflame with patriotism burn deep into the heart and brain of the children.

Let our boys and girls oftener learn and recite the old-fashioned, patriotic pieces that fired our hearts in the old school-days. To-day these same words strike no doubt a broader, deeper current in our nature, but one no less intense. Let waves of patriotic song and music echo oftener in every school-room of the land: Such songs as "The Star-spangled Banner" have power to produce a glow of patriotic feeling, especially if the singers know the history of the song.

Such training all along the line prepares for the stronger work of the high school. In the formal study of history and civil government the pupil must group these facts, compare and generalize. He is well prepared to recognize the happier political and social condition of an American, and to realize that this Union whose cost has been so great is the noblest product of civilization.

While our boys and girls learn duty to state and nation, they should early learn the debt they owe to native place. The *home village* has given them the public school, the church, and many other means for education and culture. For these favors they must in common justice cherish her good name, do naught to detract from her fair fame, but be ever ready with good word and work to enhance her interests. Cultivate a pride in the very school-building and its surroundings. Get the pupils to help make them more home-like and beautiful. Extend your influence to the home yards. Open their eyes to the fact that each one may add his mite toward making the village cleaner and more attactive —by keeping a neat yard, by caring for a flower-bed, by planting a tree. Create a wholesome public spirit. Foster a love for the native land-marks, for he who loves the rocks and rills and vine-clad hills of home will surely learn to love his native land.

Here as elsewhere precept must be enforced by example. Mere words of patriotic sentiment will fall unheeded, if they come from one who

shirks the duties of a citizen or is found neutral on all moral questions, where a decided stand might diminish his salary or endanger his position. Better lessen salary than self-respect; better sacrifice position than principle; better even leave the chosen profession than give up manhood. Of all men the teacher has no right to be a *clam*. To creep from the current of public activity for fear of opposition and criticism, and in some quiet pool shut tight the shell of selfishness is the action of a coward. I fully believe, too, that he who in a manly courteous way keeps a firm and uncompromising course where conscience points the way will win both respect and support. "No, Prof. B. doesn't think or vote as I do on a good many questions, and sometimes I get genuinely mad at the fellow; but we can't afford to let him go. He's a number one teacher, and I tell you, sir, I want my boy to be taught by a man — a man who has some strong convictions of his own and the needed courage to stand by them."

The teacher must not be a mere place-filler — a cipher; but a clear-cut, significant figure in the number that stands for the mental and moral force of his community. From the school-room will then come true patriots, for such a teacher's noblest aim — far above education of the head and the hand — he will hold the culture of the heart, the building of strong character.

J. W. Livingstone.

DODGEVILLE, WIS.

THEORY AND PRACTICE.

MASTERY AND PROGRESS.

Much time can be saved in primary and secondary schools by diminishing the number of reviews, and by never aiming at that kind of accuracy of attainment which reviews, followed by examinations, are intended to enforce. Why should an accuracy of knowledge and of statement be habitually demanded of children which adults seldom possess? How many well educated adults can add long columns of figures correctly, or find the least common multiple or the greatest common divisor of six or eight numbers? Nothing but practice can keep one skillful in these exercises; and we may reasonably be grateful that few people are compelled to keep in the necessary practice. Few adult minds retain accurately considerable masses of isolated facts, and it is

commonly observed that minds which are good at that are seldom the best minds. Why do we try to make children do what we do not try to do ourselves? Instead of mastering one subject before going to another, it is almost invariably wise to go on to a superior subject before the inferior has been mastered,—mastery being a very rare thing. On the mastery theory, how much new reading or thinking should we adults do? Instead of reviewing arithmetic, study algebra; for algebra will illustrate arithmetic, and supply many examples of arithmetical processes. Instead of re-reading a familiar story, read a new one; it will be vastly more interesting, and the common words will all recur,—the common words being by far the most valuable ones. Instead of reviewing physical geography of North America, study South America. There, too, the pupil will find mountain-chains, water-sheds, high plateaux, broad plains, great streams, and isothermal lines. The really profitable time to review a subject is not when we have just finished it, but when we have used it in studying other subjects, and have seen its relations to other subjects, and what it is good for. For example, the French programme puts a review of arithmetic, algebra, and geometry into the last year. With all his mathematical powers strengthened by the study of algebra and geometry, and with all the practice of arithmetic which his study of mensuration and algebra has involved, the boy returns at seventeen to arithmetic, and finds it infinitely easier than he did at fourteen. Further, the French boy has escaped those most vexatious of arithmetical puzzles which a little easy algebra enables one to solve with facility. Many an educated New Englander remembers to this day the exasperation he felt when he discovered that problems in Colburn's Sequel, over which he had struggled for hours, could be solved in as many minutes after he had got half-way through Sherwin's Algebra. Is it not an abominable waste of the time and strength of children to put them to doing in a difficult way, never used in real life, something they will be able to do in an easy way a year or two later? To introduce artificial hardness into the course of trainning that any human being has to follow is an unpardonable educational sin. There is hardness enough in this world without manufacturing any, particularly for children. On careful search through all the years of the public school programmes now in use, many places will be found where time might be saved and strain lessened by abandoning the effort to obtain an exaggerated and wholly unnatural accuracy of work. It is one of

the worst defects of examinations that they set an artificial value upon accuracy of attainment. Good examination results do not always prove that the training of the children examined has been of the best kind.—*Pres. Eliot in the August Atlantic.*

HABITS OF THE MIND.

Persuaded that some direct means must be found for the development of more intelligent and efficient working power, and aided by the observation and experience gained in contact with the minds of nearly 2,000 pupils, I was led to conclude that the power our pupils need lies in the ability to concentrate the attention. Then arose the question, How may the powers of perception and of concentration be gained at school, and made to become habits of the mind? Plainly, in no other way than by regular and systematic training to this end. Then was formulated a variety of exercises, to be practiced by the pupils from ten to twenty minutes each day, with no effort at learning or memorizing, although these would be attained, but solely to the end of acquiring the power of attention.

To insure quickness and accuracy in seeing, the reversible blackboard may be made a valuable auxiliary. A collection of figures, groups of circles or marks for unconscious counting, lists of words and long sentences may each be presented for an instant, and the pupils be required to write or to repeat precisely what they have seen. These exercises, it must be understood, are as distinct and apart from the work of learning lessons as are gymnastic exercises from the habits which follow their use, and, like such physical exercises, are to be considered only as means to an end.

Various and multiform are the means to which the awakened teacher may resort to quicken the minds of her pupils, and to obtain that all important result of attention—accuracy in seeing and hearing. One of the most renowned of French educators was accustomed to require the boys under his charge to run with all speed past the shop windows of the streets, and on returning to write the names of all the articles exposed to view. It has been proved that power to concentrate the attention may be cultivated and strengthened to such a degree, the mind becoming more and more obedient to the will, that pupils thus prepared

are able to learn lessons, within their comprehension, in less than one-half of the time formerly required.

I venture to assert that a very large part of the time spent in studying lessons in school and at home is wasted for lack of early training to habits of perception and attention.

Instead of vexing the mind of the delinquent with persistent questioning, for the mere sake of "hearing the lesson," an endeavor as hopeless as that of trying to pump water from an empty cistern, let the teacher first make clear the meaning of the lesson, emphasizing with marked distinctness the principal points; this done, require the learner either to write or to repeat the precise words, or words of the same meaning, which she has just heard. This requirement, be it understood, is not for the sake of committing the words to memory, but is a means of holding the pupil's entire attention until she has full possession of the lesson to be learned. To know that the result must be produced at once will stimulate the dullest mind to its full measure of activity, and in the effort to recall the exact meaning, and the corresponding words, all other issues must be laid aside: the teacher is calling her to a quick account, and there is no escape.

The teacher will find it expedient to set apart, each day, short periods of time, varying in length from ten to twenty minutes, according to the age of her pupils for the single purpose of developing and strengthening those faculties which will, at least, enable them to study, according to the true meaning of the word.

In order to show how much may be accomplished by training the mind to accuracy in hearing, when the power of attention has been acquired, some examples, by way of results, are here given. In my school were assembled about forty girls from 14 to 18 years of age. A poem by Wordsworth, consisting of twenty-four lines, was perfectly recited by the entire class in seven minutes; the teacher, as is her invariable rule, read each verse once only. An extract of seventeen lines from one of Charles Lamb's stories was accurately repeated after nine minutes. Twenty-one lines read from Washington Irving's "Sketch Book" were instantly reproduced without an error.

A part of the description of the battle of Waterloo by Victor Hugo was read aloud once, and the listeners immediately recalled thirty-six lines, or 416 words, precisely as they had heard them; and this done

without the least mental strain. The power had been acquired by a slow and systematic process of training, lasting but a few minutes at once.—*Catharine Aiken in The Century.*

PRACTICAL KNOWLEDGE.

There are but three ways of living, some one has said: by working, by begging, or by stealing. Those who do not work, disguise it in whatever pretty language we please, are doing one of the other two. A tree must be rooted in the soil before it can bear flowers or fruit. A man must learn to stand upright on his own feet, to respect himself, ot be independent of charity or accident. It is on this only basis that any intellectual cultivation worth having can possibly be built. The old apprenticeship system was, therefore, an excellent system, as the world used to be. The ten commandments and a handicraft made a good and wholesome equipment to commence life with. Times are changed. The apprentice plan broke down partly because is was abused for perposes of tyranny; partly because its employers did not care to be burdened with boys whose labor was unprofitable; partly because it opened no road for exceptionally clever lads to rise into higher positions. Yet the original necessities remain unchanged. The ten commandments are as obligatory as ever; and practical ability, the being able to do something and not merely to answer questions, must still be the backbone of the education of every boy who has to earn his bread by manual labor. Add knowledge afterward as much as you will, but let it be knowledge which will lead to the doing better each particular work which a boy is practicing and every fraction of it will thus be useful to him; and if he has it in him to rise, there is no fear but that he will find an opportunity.—*F. A. Froude.*

GERMAN IN MILWAUKEE SCHOOLS.

There has been a great deal of discussion lately, concerning the course of instruction in the public schools of this city. Some want to throw out certain things; others wish to add new departments of study; and many only want "something to be done."

Among those who state clearly what they wish, Principal Burch, as may be seen in his article in July number of the JOURNAL, is in favor of

excluding German. He states clearly some important tests of the value of any study. Is he correct in applying them?

The high and peculiar disciplinary value of study of the German, in which it ranks next to the ancient classical languages, is generally admitted. No one will deny the great practical importance of the knowledge of German in Milwaukee, where three fourths of the inhabitants are German, and where it is necessary to have German speaking clerks in almost every business. Then is German to be excluded from our schools because it is not essential to citizenship? It may not be necessary that a citizen should know German in order to vote intelligently for president or governor; but such knowledge may be of importance for the effective management of local affairs. No feature of our public schools is more pronounced than their local character. They are controlled by local boards, paid by local taxes, and should be so organized and taught as to meet the special wants of the locality in which they are situated.

Citizenship is not an infallible test of the value of educational work. It is an important test, but there are others of equal and greater importance. A subject may not aid greatly in preparing for citizenship and yet have an important place in a course of study, because of its practical utility; or because it aids in developing the mental faculties; or aids in acquiring other knowledge; or tends to unify the action of different educational factors in the life of the child.

To a large number of the pupils in the public schools of Milwaukee, the study of English is the study of a new language. This fact should not be overlooked, since it has an important hearing on methods of instruction. It is perhaps not always realized by teachers and others, that the knowledge of a new language is a matter of complicated mental growth; and that the German child must acquire in school, what the home aided by school has given his comrade. We should certainly not withhold from him the aid which a proper knowledge of his native language would give him. A portion of his English vocabulary, and especially the relative meaning of terms, is fixed by translation. An important element of his knowledge is the result of comparisons between the new language and the one with which he is familiar. Many peculiarities of language are more readily distinguished in connection with the written forms. It is therefore important that he should be able to read and write the language he learned to speak first.

The study of German has certainly proved no drawback to the Ger-

man children of Milwaukee. They do not require a longer time to finish the course. The average age of the graduates from the district schools of the German wards, is not greater than the average age of those from the English wards. Perhaps the German American child is not so proficient in the use of English — his vocabulary may be less extensive, his use of words less nice, his sentences may be somewhat tinged by the idioms of his mother tongue. No one will maintain, however, that his knowledge is less accurate, or that his power of language is not equal to the child who knows English only.

Does German tend to give unity to the education of the child? Education depends on three distinct factors — the home, the church, and the school. They cannot perform their work to the best advantage unless there is some bond of unity. It is unfortunate that in many instances they are separated on account of difference in language. The time will come when but one language will be heard in every American school, and in every American home. It has not come yet. A large number of the young Americans of Milwaukee have learned two languages. The affections that center in the home, the primary lessons of morality and of piety, were learned in a different language from that employed in those lessons of practical knowledge which were acquired in school. It is of great consequence that the school should teach the child that knowledge of his language which will enable him to appreciate the importance of the lessons of his home and church. It is of practical value that the child should find some familiar element in school. It is of the utmost importance that the school should tend — not to separate him from his parents — but to unite them, through him, more intimately with their fellow-citizens by bonds of mutual repect and sympathy.

But is our course not overcrowded? It is not. In some instances, no doubt, the minds of the children are over-burdened, because their knowledge lacks unity and order. Perhaps some teachers spend too much effort on the subordinate details of the gradework of their classes, and fail to emphasize those elements which like the beams of a building should rise throughout the edifice of knowledge, and uniting all the parts give strength and stability to the whole. The mistakes of the workman are not necessarily due to a deficiency in the plan of work. The plan is good, and has been executed as well as plans are generally executed — in any department of human activity — by good, faithful, and able workers.

The course of instruction is not perfect. It will not be improved by the indiscriminate criticism of those who do not understand it. It should not be endangered by a hasty use of the pruning knife. In order to determine what modifications are necessary, it will be best to listen to the advice of those whose long experience in the work gives them a professional right to be heard.

Primary School Principal.

MILWAUKEE, WIS.

EDITORIAL.

IN this number we publish two stirring and valuable papers on the teaching of patriotism in the schools. They bring clearly to view the difference between the mechanical and the vital teaching of the history of the United States. Dry-as-dust in the school room reduces this branch to a dreary and forbidding task, the memorizing of meaningless names and dates, the accession of presidents, outlines of campaigns and battles, and so on. These papers reveal the value and power of the study when properly pursued. It must be human and humanizing. It must familiarize the young with high character, strong endeavor, self-denial; it must develop in them an intelligent love of country and some knowledge of the origin and growth of our institutions. Not when Washington became president, but what sort of a man he was; not a plan of McClellan's peninsula campaign so much as an understanding of the principles involved in the struggle, the sacrifices and efforts it called forth, the results it secured;—these are the things of supreme moment for the young to learn. And such things as these can be learned very young. They ought to be learned very young. As soon as school children can read tolerably they should be put to reading the history of their own country in the school. It will interest and profit them, and if delayed the great majority will not study it at all in school. Let this come in place of some of the useless geography teaching now so common.

INCIDENTS like the following are not uncommon. A school board is engaged in filling the vacancies in its list of teachers. There are as usual several candidates for each post, and one teacher is urged upon them as specially qualified by thorough training and long experience for the place next to be filled. Her record is in every respect excellent, and much above that of the other candidates. At length one of the board asks, "Does she need the place?" It is discovered that the family are in comfortable circumstances, and that the candidate does not need to teach for a living. That discovery settles the question. The position is at once awarded to another, who appears from the record to be much less qualified to render in it the best kind of service, but who "needs the place." Every one will sympathize with the disposition to aid the needy and deserving, but that will not prevent thoughtful persons from protesting against the action.

Places in the public schools are not public charities; if they are to be so considered the more self-respecting teachers will hasten to take themselves out of the calling. In this case the advantage of fifty or sixty children is sacrificed to the desire to help one person. The extremely charitable school board, appointed as the legal guardians of the young in this very matter, has deliberately subordinated the interests of their wards, numerous and helpless as they are, to the advantage of a single person whom they were in no wise appointed to serve. And this is called kindness! It is beyond question a perversion of a public trust. The men who do such acts, and this is really a very favorable instance,—one of the most favorable,—are honorable, kindly business men, who intend to discharge all their duties faithfully. They simply have not learned to look upon the public school as a serious and important public business, to be managed on thoroughly business principles. To them, very likely, the difference between first class teaching and ordinary, tolerable school-keeping, seems to be largely a matter of fancy. If a teacher keeps tolerable order, hears the lessons regularly and don't get into trouble, what more do you want? This deplorably low and pernicious ideal of teaching on the part of those charged with the control of the schools is really the most serious obstacle in the way of their improvement.

ELSEWHERE we publish a striking passage from President Eliot's paper in the August *Atlantic Monthly*. To say that we are never to aim at "that kind of accuracy of attainment which reviews, followed by examinations, are intended to enforce," is to take somewhat radical ground against prevalent school ideals. The point is supported by the affirmation that this accuracy is not found in adults, and that the effort to secure it impedes the progress of the pupil. This brings us face to face with an obvious and important truth that, under the plea of securing mastery, children are kept drearily fiddling with subjects of elementary training when they ought to be venturing into new fields, thus expanding their knowledge, and through interest developing their powers. The truth of this affirmation few thoughtful men will deny, and President Eliot's illustrations of the manner in which subsequent studies round out and perfect the earlier ones are admirable and convincing. Many otherwise excellent schools err grievously in this particular. They overlook the obvious fact that a mind well-trained in advanced studies, if called on to deal with elementary branches, will bring to them the strength and habits it has acquired, and hence the defects of earlier study will largely disappear. But, again it is often affirmed that if the elements are not thoroughly mastered right progress is impossible. This is certainly a mistake, because subsequent progress ought to round out and perfect the knowledge of the elements, the true meaning and relations of which can only be learned through their applications. And this, it seems to us, is the most important truth in the paradox we are considering. It is an error to expect of a child such accuracy as comes only of an extensive knowledge of things and their relations. He must think as a child before he can think as a man. There are grave defects

in childish thought, which are cured by growth and experience, not by examinations and insisting upon such mastery as can at best be but formal and not real. Real "accuracy of thought and of statement" is, indeed, a rare product of maturity and extended culture, and how absurd it is to expect it of babes! So far we find ourselves in agreement with President Eliot; but we cannot quite accept his unqualified statement. Accuracy, it seem to us, ought always to be aimed at; but rationally, and with regard to the age and development of the pupil. To make him think accurately and speak accurately must continue to be the aim of all our work. But we must recognize how difficult of attainment this power is, and be content to see the pupil gaining upon it steadily. We must not let a foolish and unnatural demand for accuracy impede his progress or mechanicalize his mind. This perhaps is what President Eliot means by "the kind of accuracy of attainment which reviews, followed by examinations, are intended to enforce."

WE have on hand for publication in the JOURNAL during the next few months a number of valuable and suggestive papers which we feel sure will be appreciated by intelligent and progressive teachers. Some of them were read at the Teachers' Association and others have been carefully prepared by competent writers and represent the best educational thought of the State. We have also instituted a series of inquiries regarding school work in Wisconsin, of which the collection of replies in our last number regarding the working of the Grading System may serve as an example, and we hope to present the results to our readers from time to time. We shall keep up the various departments of the JOURNAL as they have been during the past year, believing that they are appreciated by those who have a genuine interest in education. Does the JOURNAL deserve the support of the teachers of the State? If so we ask that they give it hearty and genuine help in extending its subscription list.

TEACHERS' Reading Circles are not dead in Wisconsin. A few counties have maintained them, and we hope more will fall into line soon. This year no membership fee will be charged, and no change offered in the courses. Circulars will be sent to any persons asking for them, and membership issued to all who will pledge themselves to do the work. Active teachers can organize a circle in their own district, or among those teaching in their own schools. Individuals can join and pursue the course by themselves. The funds are sufficient to meet expenses for another year, and we hope that the doing away with fees will induce many more to undertake the work.

OUR DRAWER.

MILWAUKEE LETTER.

The usual period of uncertainty as to the *personnel* of the teaching force, of resignations and of applications for places, of renovation of buildings, etc., is about ended, and the material agencies are in shape for another year's work.

The supply of teachers available is about equal to the present demand, and the ranks of the reserve corps have also been recruited; a few have already been promoted from the reserve corps to permanent positions as class-room teachers. In filling the position of Principalship of one of the primary schools, a sharp fight was made in the Executive Committee, on the question of appointing a man or a woman. The qualification of sex seemed the one pivotal point on which the argument turned; that each candidate was worthy of the place was conceded. Supt. Anderson valiently championed the cause of the woman, holding that the work of women in primary schools is superior to men's work in similar positions; but the result of the discussion seemed to indicate that the "pins were set" so firmly that no argument could draw them out, and the man was chosen.

During the last week of the school year, and for some days after, an exhibit of specimens of drawing done by pupils of the high school and of some of the grades below was made in rooms of the School Board building. The mechanical drawings from the high school and the freehand drawings of objects in colors by pupils of lower grades were especially worthy of commendation. The display did not represent any great amount of special effort in its preparation, but was designed to show specimens of actual work done in the schools.

Pedagogical pilgrims to the public schools of Milwaukee seeking good methods in elementary work, and interested in the revival of mental arithmetic as a gymnastic for the mind, should visit the Eighth District Primary, No. 2, in charge of Prin. Dominic Schuler. Pupils who had the advantage of his personal instruction and others who had followed lines of work according to methods marked out by him for assistant teachers, showed, when the last days of the year had come, a facility in combining and separating numbers rapidly and in making intricate computations which would seem incredible to the teacher who does not appreciate the value of daily drills on wisely selected mental exercises. *Query*: Could not the editor prevail upon Mr. Schuler to lay his plan of work in arithmetic before the readers of the JOURNAL?

A movement has been set on foot by the Tenth Dist. Public School Association to have text-books furnished at public cost to the schools of the city. On behalf of the Association, Pres. F. Sebastian presented a petition to the Common Council praying that action to this end be taken under authority vested in the Aldermen by chapter 315 of the revised statutes. The memorial was accompanied by letters received by the Association from Supts. Jasper, of New York City, Meleney, of Patterson, N. J., Barringer, of Newark, N. J., and others who speak from experience, all testifying in the highest terms to the wisdom, expedience and economy of the plan of furnishing text-books free of expense to the individual. The petition was referred by the Council to the School Board and by them in turn to the committee on text-books.

The amount paid for the rent of pianos for use is the various public school buildings has heretofore aggregated $700.00 a year. By recent action of the board, the committee on supplies is authorized to purchase pianos and stop this expense.

ICHABOD C.

QUESTIONS FROM THE STATE EXAMINATIONS.

HISTORY OF THE UNITED STATES.

December, 1886.

1. Tell how this country was governed during the Revolutionary war, what difficulties deferred the adoption of the Articles of Confederation and how they were overcome.

2. Outline the history of the acquisition of territory by the United States, and draw a map to illustrate your discussion.

3. Enumerate the chief events in the growth of slavery in the United States up to the time of the Kansas-Nebraska bill.

4. State in their order, and very briefly, the chief parties which have appeared in this country since the Revolution, and the chief issue on which they were formed.

5. Enumerate the principal events leading to the Mexican war.

6. Sketch the campaign of 1862 in the West.

7. Contrast President Johnson's plan of reconstruction with that of Congress.

8. By what important measures were the results of the Civil war made secure?

9. Give an account of the disputed election of 1876, and how it was settled.

June, 1887.

1. Discuss the first act of the British Parliament which led to decided resistance in the American Colonies, so as to show clearly the principles involved in the issue.

2. Give some account of the circumstances which led to the adoption of our present constitution, and how it was made and adopted.

3. What three issues have led to important wars since the adoption of the constitution? State accurately the points at issue.

4. So outline Jackson's administration so as to show (*a*) its principal issues and (*b*) its principal men.

5. What was the Kansas Nebraska act? and how did Kansas become a free state?

6. Give a brief history of Gen. Lee's second invasion of the North.

7. State President Johnson's plan of reconstruction, and how the plan actually followed differed from it.

8. What difficulties attended the election of President Hayes, and how were they settled?

9. and 10. At what stage in his school course may the first instruction in history be given to the pupil, and what should be the character of that instruction? How should High School instruction in the history of the United States differ from this?

December, 1887.

1. Write of French and Spanish settlements in America, so far as they affected our early history.

2. Describe the contest between French and English in America, with full discussion of events of 1756–1783.

3. Write briefly of the time, cause, and results of each of the several attempts at union of the English Colonies.

4. Discuss the financial, commercial, and political situation of the states in 1786.

5. Write of the manner, motive and consequences of the acquisition of Louisiana.

6. Discuss causes, conduct and results of war of 1812, from a political rather than military standpoint.

7. State fully the issues involved in presidential campaign of 1860, principles and candidates of the several parties. Give the general course of events to March 4, 1861.

8. Describe the conduct of Militray operations in 1863, either in Mississippi Valley or about Washington.

9. Write sketch of public career of Benjamin Franklin, Andrew Jackson, Henry Clay or U. S. Grant.

10. Write of commercial development of the United States during present century; or name two historians, two poets, two statesmen, two soldiers, of United States, belonging to our own age, not named in (9) and give some satisfactory ground for your selection.

PUBLICATION OF EDUCATIONAL PAPERS.

[From a note by R. C. Spencer, of Milwaukee, referring to the address of President Salisbury at the Eau Claire meeting which was published in the August JOURNAL we make the following extract:]

"I consider it one of the best documents of the kind that I have seen. I wish it might be generally circulated and read. It seems to me to cover broadly the great subject of education, and to touch the points of vital interest and immediate concernment. May not some method be devised, similar to that of the Farmers' Institute, for the publication and general circulation of the proceedings, papers and discussions of the Wisconsin Teachers' Association, County Teachers' Institutes and other educational bodies in pamphlet from? The Management of the Farmers' Institutes are about to publish an edition of 50,000 copies of their proceedings which will, doubtless, be productive of vast good in this particular direction, reaching as it will, multitudes of farmers and others. Could the mass of teachers and school officials and parents who are directly interested in the subject of education be reached by some such means, bringing before them the vital things in education, the result would be, doubtless, more intelligent and liberal administration of school affairs, improved home-training of children, a better appreciation of the claims of higher education and a wider utilization of the every day business and relations of life as educating agencies.

"In short, what we seem to need is more real business enterprise in spreading

before the people the kind of literature which they need to direct and stimulate them in educational matters. The thought suggests itself that a publication of this sort might be combined with that of the Farmers' Institute, so as to make it doubly useful and valuable to the State. I do not know what provision, if any, has been made by the State for the publication of the proceedings of the Farmers' Institutes, but presume that the expense in part, is paid out of the appropriation made by the State for the support of these Institutes. If so, the same reasons which render it a wise policy for the State to appropriate money for this purpose, would have even greater weight in regard to the concerns of general education. It may be that, at the approaching Legislature, a bill might be passed providing jointly in some suitable manner for these objects."

ABOUT OUR DISTRICT SCHOOLS.

We take the following extracts from a paper read before the Jackson County Farmers' Institute, by Superintendent W. J. Hoskins:

DISTRICT AND HIGH SCHOOLS.

But let us go a little farther. There is a kind of unity between the city schools and our colleges. A Pupil may pass much more readily from the city high school to the college than he can pass from the district to the high school. Between the elaborate $30,000 brick structure of a city and the $400 frame building of the country school there is no connection. The city school is graded. The average country school is ungraded. The city school is under the careful supervision of the principal. The country school is vouchsafed the heavenly inspiration of an annual visit of an hour from the county superintendent. Short terms and irregular attendance render still wider this difference.

Let us suppose that a boy from the district school wishes to attend a high school. What difficulties are likely to beset him? In the first place, his education is unsymmetrical. He has paid little attention to language, penmanship, geography or history. He knows his arithmetic fairly well, but his lack in other studies ranks him with boys and girls of the same age as those who in his own school are just mastering the third reader and the multiplication table. Is it any wonder that he becomes discouraged and abandons school altogether?

We have assumed that he can gain ready admittance to the high school, but it is not altogether certain that he can enter all these schools. I heard the principal of one of the best free high schools in Wisconsin, say not three months ago: "We have very few pupils from the district schools. Our board don't want them, and in order to keep them out they put the rate of tuition so high that country scholars can't afford to attend." Now I dont wish to be understood as condemning this particular school board or others like them. Perhaps by experience they had found that pupils from the rural districts retarded the general advancement of the school. But if you shut out the district school pupil from our high schools where is he to obtain a preparation for college, if

he wishes to go to college? Some maintain that he should be shut out from these schools on the simple ground of taxation. But that is pure selfishness, and is based upon the erroneous assumption that city taxation for school purposes is higher than the taxation in rural districts; when the plain fact is that the city aggregation of population and wealth renders taxes proportionately lower than in the country. Moreover, the free high schools share the benefit of a special fund of $25,000 appropriated annually for their support.

But the ready admission of pupils from rural districts into high schools is not unattended by evil results. I have known the presence of a high school to cripple the adjacent district schools by withdrawing from them all the advanced pupils, which inevitably results in reducing the length of school terms and necessitating the hiring of cheap teachers for the schools so depleted. Now a simple remedy for this, would be not higher rates of tuition, but higher standards of admission. Our district schools, properly managed, are abundantly able to prepare pupils for the first year of any ordinary high school course; and by refusing to admit scholars below the high school department, the work would be thrown back where it properly belongs—to the district schools. Nothing will ever be gained by disparaging the work of elementary schools. The Wisconsin *Journal of Education*, for March, has an editorial from Dr. Stearns on the "Decay of District Schools." An occasion for such an article should never have arisen in Wisconsin, and the deteriorating influences now at work should immediately be removed.

FAILURES IN TEACHING.

A teacher must understand the comparative value of facts pertaining to the same subject. Studies are available for two purposes—for information and for discipline. Mental arithmetic is plainly a disciplinary study and its principles are of great practical importance in advanced arithmetic. Now this branch is either not taught at all in most of our schools, or it is taught in such a manner as to be of little value as discipline and of no value for practical applications in arithmetic. Geography, as taught in most schools, is pre-eminently an information study, and the information imparted is frequently of no use whatever. Of what value to a child is a knowledge of Timbuctoo, when he does not know the names and uses of the trees which grow in his school-yard? Geography properly taught contains many facts of great importance which are also highly disciplinary. Geography opens a wide field for the development of the perceptive powers of the mind. Why not occasionally read to the child a lesson from the book of Nature? Too frequently it may be truthfully said of the children in our schools: "Eyes have they, but they see not; ears have they, but they hear not; and those that teach them are like unto them."

I have seen teachers trying to explain duodecimals to scholars who could not tell you the cost of 2,400 pounds of wheat at 80 cents a bushel. Not long since I gave a boy an easy example in compound numbers similar to the following: Find the cost of a pile of wood 40 feet long, 8 feet high, and 24 feet wide, at $2

per cord. A practical man would have answered the question in a moment. But the boy had to bring a whole battery of rules to bear upon a point that would have yielded to a single saber thrust of practical judgment. There were six tiers of wood each having 10 cords at $2 per cord, worth $120. "Do you understand cancellation?" I asked. "Yes, I had that last week. I can work every example in cancellation." What did you learn cancellation for?" "I don't know. It was in the book and the teacher gave it to us." There is no more teaching in that kind of work than there is in turning the crank of a hand organ. The lesson is given because it is in the book, and the tune is played because it is in the music box. Our pupils ask us for bread and we give them stones.

We accept as a fundamental principle the statement that ignorance and freedom are incompatible and that intelligence is necessary to enlightened citizenship. We believe that the study of civil government will conduce to good citizenship, and we place our national and state constitutions among the branches required to be taught in common schools. But a trial of fifteen years has shown that the subject is so taught in these schools as to be of little or no benefit. At a recent convention of county superintendents at Madison, the prevalent opinion was that a discontinuance of the study would not be a loss to the communities.

WHO IS TO BLAME?

The question now properly arises, Who is responsible for this condition of affairs? Truthfulness compels me to say that the principal cause is the inefficiency of the school district boards. They do not visit the schools. Teachers are hired and discharged upon the most flimsy of pretexts. It is a serious injury to a school to refuse to re-employ a teacher except upon grounds of unfitness determined by careful investigation of the work done and deliberate judgment based upon that work. In too many cases, no sooner has the teacher got fairly acquainted with her work and her pupils than comes a bungling note from some member of the school board who has paid no more attention to the school than has the "heathen Chinee," that her services are no longer required. Persons in other occupations may come and go, but the district school teacher goes on forever. Again, in many of our schools no apparatus is provided to help teachers. They must make bricks without straw. Another serious evil is the practice, quite too prevalent, of hiring teachers on limited certificates obtained at private as well as public examinations. Now, I am ready to admit that there are cases which justify this practice, but they are by no means numerous. It is one of the duties of the superintendent to raise the standard of qualifications; but how can he do this unless he secures the co-operation of school district boards? Not a year passes in any county in Wisconsin in which the superintendent is not besought and petitioned to grant licenses to persons utterly incompetent. If no other teacher could be obtained the case would be different, but I have on a list of applicants for positions, three lady graduates of the Black River Falls high school, one of the Merrillan high school, and a young

man holding a second grade certificate of high rank and who is also an excellent teacher. And the petitions which have come to me, have been in reference to young people of no experience and of little education. * * Too many young persons are hired. They may be well qualified, so far as education is concerned, but they are lacking in that power to influence and inspire which persons of superior age and experience can exert. The public school must be placed in such a position that our boys and girls, especially our larger boys and girls, will respect it and have no desire to get away from it to attend a high school they are not ready to enter.

IN THE SCHOOL ROOM.

SUGGESTIVE PARAGRAPHS.

THE reading-teacher must not neglect grammatical drill, which is one of the most important of all educational instrumentalities, and the basis of the study of language. It has been overdone in the past, and has often fallen into the hands of pedagogical Philistines. No less than twenty-eight parts of speech, twelve tenses, and twelve modes, etc., have been distinguished in school-books. When the deeper meaning of the Bible was thought to lurk mysteriously in the sentence-structure, a good grammarian was proverbially a good theologian, and even now there are pedagogues who assume that there is something wrong in an author if his idioms, which from their very nature are anti-grammatical, cannot be brought under the ready-made formula and "parsed." But nothing yet known makes its place good in teaching to talk and write correctly, and with its neglect in our schools an increasing number of candidates for admission to college are deficient in practical knowledge of their own tongue. What is needed is, of course, not prosody but syntax, and enough parsing and analysis to develop a "sentence sense."— *G. Stanley Hall, in "How to Teach Reading."*

"THERE is no part of my professional career that I look back upon with more pleasure and satisfaction than the practice I always pursued in giving, each Saturday morning, familiar talks on such subjects as would conduce to make my pupils happier and better men. I have been more fully assured of the benefit resulting to many of my pupils from letters received and conversations I have had with past members of the school, who uniformly write or say: 'Much of what I studied in school is forgotten, but the words then spoken are treasured and remembered, and they have influenced and ever will influence me while life lasts.' "—*Joshua Bates.*

MAKE yourself nests of pleasant thoughts. None of us yet know, for none of us have been taught in early youth, what fair palaces we may build of beautiful thoughts, proof against all adversity. Bright fancies, satisfied memories, noble histories, faithful sayings, treasure houses of precious and restful thoughts, which care cannot disturb, nor pain make gloomy, nor poverty take away from us—houses built without hands, for our souls to live in.—*J. Ruskin.*

SOME TEACHING DEVICES.

IN PRIMARY NUMBERS.—Counting by twos, threes and fours may be taught by paper chains. Cut paper into narrow strips. Show the child how to make a ring of one strip by pasting the ends, then tell him to put another strip through the ring and paste as before. Direct him at first to make two links of one color and then two of another. By giving a few strips at a time, and additional papers only to those who count correctly, the recitation of this lesson will be regarded as a great privilege. This device is especially helpful in teaching a small class in a country school. If paste is to be distributed to each pupil in a large school, place on each desk a small square of heavy wrapping paper. Show the pupils how to make a paste dish by folding each edge. A little flour paste can be put in each paper.

These paper dishes cost neither money nor time, since any child can make them, and also collect them for the waste box. Toothpicks will be found an excellent substitute for paste-brushes.—*Ills. Sch. Jour.*

IN GEOGRAPHY.—Let the teacher, or one of the pupils for her, draw upon stiff Manilla paper an outline of the country to be studied. Cut this out carefully with scissors or a knife, and it will be useful to trace the outline rapidly upon the blackboard. Have the pupils from memory fill in the principal rivers, lakes, bays, railroads, cities etc. The exercise will be very interesting, and will serve to fix details accurately in the memory.

IN SPELLING.—Spelling should be taught by dictation exercises. Difficult and unusual, outlandish words should not be dictated, except to advanced pupils. Frequent drills should be given in the spelling and proper writing of common words and terms. In these the mistakes are most frequent. Such words as *to* and *too*, *their* and *there*, *I* and *aye*, *farther* and *further*, *principal* and *principle*, are frequently interchanged. The prossessive forms are often incorrectly written, as *their's*, *its'*, *ours'*, &c., for *theirs*, *its*, *ours*, or *ones*, and *others* for *one's*, *other's*, etc. Simply to learn the orthography of words without attaching any meaning is a wast of time.

INDUSTRIAL WORK IN COUNTRY SCHOOLS.—Being asked what industrial work could be done by teachers in schools where no work-rooms could be provided, Prof. Rickoff mentioned several exercises which could be introduced, even in the ungraded country school, where he passed several of his early teaching days. "The little ones there enter the schools at five, with no previous kindergarten training. They could begin sticklaying, and from that go by easy steps to the drawing of simple forms, to cutting out cubes, prisms, etc., in pasteboard, then to joining them, then into more intricate and artistic designs, such as these," pointing out some ornamental work done with the scroll-saw upon thin wood. If the scroll-saw could not be procured, stiff manilla paper could be used, and cut out with a knife or scissors. The first step in all of these is the drawing, and then the execution of it in the construction of that for which it is intended.

In any ordinary school-room, built to accommodate fifty or sixty children, room could be found for a table in one corner which would serve for the work-shop. Teachers need not wait until they have a complete and definite course laid out. They need not wait to see the end from the beginning, but with an intelligent idea of what is to be gained by such work, set about doing that which is possible under existing circumstances.

IN READING.—The great object of the reading class is to teach children the art of getting out of books what is in them. Such exercises as the following will be found helpful in securing this end. Before reading in class call upon some pupil to give an account of the matter in the lesson, and secure from the class a tolerably complete and systematic account of the lesson. In addition the teacher may assign other selections, from the reader or other suitable books, and have one or two pupils give an account of these at the opening of the recitation. Such practice teaches beginners to get the meaning of what they read and to bind it together as a whole, which is one of the greatest arts of a good reader. Without some care in this matter children read each sentence, sometimes each word by itself, and so fail to get anything out of their reading.

IN MANAGEMENT.—One of the best ways to prevent general disorder in a school-room, such as whispering, passing notes, loud studying, playing, etc., is to create a sentiment in the minds of the children about one's duty to his neighbor. Continually impress upon the pupils the impropriety and postive unkindness of disturbing others. There will in time, if the teacher himself practices as he preaches, be a sincere regard for the rights of others, and little, if any, need to speak of the offenses that make up the aggregate of a teacher's trials. Beside, such pupils have received an impression toward true citizenship that must result in making them better men and women.—*Journal of Education.*

A USEFUL GAME.—The old game of "twenty questions," if properly taught and thoughtfully played, is valuable in promoting scientific and logical methods of thinking. One player thinks of some object, either material or immaterial, of present, past, or future existence, the only limitation being that the thought shall be familiar to the others. The others then attempt to guess it by a process of classification, being limited in their questions to such as can be answered by Yes or No. Among the best questions to begin with are the following, to which I have assumed the answer *No* to be given every time. (1) Is it immaterial? (2) Is it organic? (3) Is it a non-metal? (4) Is it a natural as distinguished from a manufactured article? Without going further, it will be observed that by these four questions, all answered by a simple negation, the questioner has learned that the object sought is a manufactured article of metal.

ANECDOTES FOR SCHOOL USE.

DISCIPLINE BETTER THAN BRAVERY.—When the Duke of Wellington received a very intrepid battalion returning from a bloody campaign, it was obser-

ved that he said nothing of their courage, praising only their discipline and subordication to command. Civilians were surprised. The field marshal's reason was ready—Englishmen are expected to be brave, but obedience is the higher honor. War itself, as a science of slaughter, is not a lofty kind of work, as the most courageous warriors in later days always admit. Yet the military profession is an elevated one in civilized countries, because it is a discipline of character in the principle of authority. The fascination in the presence of an admiral or general is not in the strap or title. Great commanders, great statesmen, true gentlemen the world over, never gain their places by self-assertion, but by stead ast drudgery under orders, each obediently observing the limits of his rank and postr How sternly the public judgments of heaven have instructed both Cæsars and democracies that presumption is weakness; that military dash and extemporization and "headquarters in the saddle" and contempt of "red-tape" and all that raw brood, are sure agencies of national self-destruction.

A Crow's Device.—A hungry crow was very anxious to get possession of a bone which a large dog was lazily gnawing in front of his kennel. After capering about and cawing at the animal for some time, vainly trying to divert his attendtion from the coveted bone, the bird flew away. He soon returned and brought a comrade, who perched on a low bough behind the dog. The first crow now renewed his attempts to draw the dog away, but all to no purpose. Its companion now come to its assistance. Swooping down swiftly on the enemy, it gave him a severe peck on the back with its hard, strong bill. The dog jumped up and savagely snapped at his black assailat, who was too quick for him, however, and escaped. The moment the dog turned his head, No 1 crow secured the bone and flew away with it. The dodge was evidently panned by the the two cunning birds.

Educated but Ignorant.—During the cold weather of the recent winter some neighboring boys who have excellent training in gentle manners and social habits, desired to make, or have made, a toboggan slide in their backyard. A boy much smaller than the brothers, who were still in Knickerbockers, was employed to construct the work; the material was brought, and for several days the little fellow would use the saw and hammer, give directions, plan and do all the work, while the two nice boys, good schoolars, and doubtless polite and obedient in the household, but untrained in hand-work, stood by and looked on doing what they werre bidden to do in the way of helping the master-workman. Now that little eleven years' old boy, with his hammer and saw, had his eye and hand trained in regard to mechanism, he worked like a man who had been for years at it, and constructed the thing; and the boys joined in the enjoyment of it as long as the snow lasted. Now why should not these nice, larger boys have been trained so that they could have had some knowledge and power to accomplish the work they wanted done? They entered heartily into the affair; they could work and have sport, they could roll big snow balls and build snow house, but when it came to saw and hammer and construct, they stood idle. as spectators, willing to help but not knowing how.

PREPARED.— Daniel Webster gained a case by preparing a timid nervous witness to meet the opposing council, Rufes Choate. He told him of his personal appearance, voice, gestures, and menacing attitude, but also told him not be at all afraid, or take the least notice of his strange ways. He obeyed. He calmly answered questions; baffled the belligerant lawyer by his self-possession, and, holding the key of the situation, gained for Webster the verdict. Every one, young and old, should be taught what to do in danger. "First aid to the injured" is very important, but the study of emergencies is even more imperalive.

A FEW EXERCISES.

IN LANGUAGE.—1. Combine each of the following groups into a single sentence: (*a*) They had crossed the ditch. They had still to work their way through the garden wall. This wall was nearly four feet thick. (*b*) They had agreed to meet at a certain spot. He arrived at this spot. His friend had been captured. His friend had been taken back to prison. He found out this on his arrival. (*c*) The turnkey often entered the apartment. He never gave notice of his coming. The prisoner had to secrete his tools. He had also to secrete the chips and rubbish. The appearance of these would have betrayed him.

2. Tell what the italicized pronouns stand for: (*a*) Its song resembles *that* of the thrush. (*b*) He asked for some milk, but there was *none* to be had. (*c*) *It* was necessary to make another choice. (*d*) I thought *it* my duty to warn him of the danger. (*e*) We offered to divide it equally but he would not agree to *that*. (*f*) They had not heard from him for a week, *which* made them feel rather uneasy.

3. Correct, where necessary, the following, giving the reason in each case: (*a*) I and my sister felt vexed because we came late to dinner. (*b*) Between you and I, he is not so clever as he think. (*c*) Thinks I to myself there's burglars somewhere here. (*d*) The cook wont give me none of his sauces. (*e*) This is one of the easiest grammar papers that has ever been set. (*f*) The Moor, seizing an enormous bolster, full of rage and fury, smothers her.

4. Give examples to show that each of the following may be used with different grammatical values: (*a*) Daily, (*b*) copper, (*c*) to see me, (*d*) in the garden, (*e*) where you got it, (*f*) who owns the house.

5. Copy and write the feminine form of: Bridegroom, beau, lord, Mr., nephew, sir, author, host, poet, governor, actor, negro, testator, hero, sultan, landlord, Francis, Joseph.

6. Copy and write the plural of the following nouns: Alley, attorney, bay, brush, chimney, cuff, church, cupful, dish, essay, head, horse, kiss, money, muff, oak, portfolio, prize, tax, cargo, gun, five, turkey, success, summons, solo, ally, daisy, echo.

IN PRONUNCIATION.— Write the following on the board for the pupils to study and be prepared to pronounce: nominative, florist, maritime, orthoepist, mischievous, opponent, servile, deign, indict, extraordinary, illustrate, valise, gigan-

tic, gunwale, loch, lough, lieutenant, consummate, azure, leapt, invalid (noun), mercantile, oases, none.

IN ARITHMETIC.—1. How many cubic feet will 100 bushels of grain occupy? (A bushel is equal to 1¼ cubic feet nearly.)

2. How many bushels of oats will a bin 8 feet by 6 feet by 5 feet contain?

3. How many cubic feet of space will be necessary in which to store 600 bushels of corn?

4. A bin is 8 feet by 10 feet; how deep will the wheat be in it when it contains 400 bushels?

5. How many bushels of shelled corn will a wagon-box contain that is 12 feet long, 3 feet wide, and 20 inches deep?

6. How many bushels of potatoes can be stored in a bin 20 feet by 8 feet, and 6 feet deep? (A bushel, heaped measure, contains about 1½ cubic feet.)

7. How deep must the potatoes be in a wagon-box 10 feet long and 3 feet wide to contain 20 bushels?

8. How many bushels of turnips will a wagon-box contain that is 10 feet long, 3 feet wide, and 22 inches deep?

9. The apples in a bin 12 feet by 4 feet are 3½ feet deep; how many bushels are there?

10. A corn-crib is 8 feet wide, 7 feet high, and 25 feet long; how many bushels of corn will it contain?

AN OPEN LETTER TO YOUNG TEACHERS.

The best means of attaining success should be eagerly sought after by all young teachers. Progression marks so decidedly the age in which we live that one must be on the alert to keep up with the times.

Let me offer a few suggestions to those who are entering the honored career of the pedagogue. In the first place, let me insist upon your taking a paper—some good educational periodical. You may never yet have taught, perhaps are only preparing to do so. All the more reason why you should lay hold of every means to inform yourself, that you may make up for your lack of experience. If you have taught, even for years, you cannot afford to do without reading. There are new methods canstantly being introduced, new ideas promulgated; and if you would be a live teacher, you must read what is going on in other schools. You can make use of others' ideas and plans, and in addition to this, by the incentive thus given, you may be enabled to evolve new and better methods of your own.

Visit a stock raiser. His home is strown with breeders' papers. The farmer has his agricultural periodicals. The poultry journal appears in the house of the chicken fancier. The mechanic has his trade organ, whatever it may be, and studies it with care.

Go into a dressmaking shop. The first thing you see is a fashion magazine, and not only one, but many, and these are generally much higher-priced papers

than any educational periodicals. If these, whose pursuits are so far from being intellectual, feel the need of the help that can be obtained by professional reading, how much more ought those who are dealing with human brains, and immortal souls, to appreciate the good that can be gained by pursuing a like course.

When you have secured a paper or magazine as a guide in your work, *make use of it*, and put in practice what you need. I have found it an excellent plan to have on hand one of "Mark Twain's Scrap Books," which are ready "gummed," and when a journal is read through to cut out such articles as I think would be valuable—poems, exercises, etc.—and put them in the book in order; then, when I need them, I can turn to them readily, and find valuable help in my work.—*Exchange.*

WHAT I DID WITH MY GEOGRAPHY CLASS.

The previous teacher had taken them over the United States and South America, and had begun Europe. To learn what to do first I asked a few test questions about the boundaries of the States, the States drained by certain rivers, and the names of States having a coasting trade. I found the class sadly deficicnt in what might be called related knowledge, *i. e.*, the relative sizes of States, the direction of one State from another, the direction of surface slope, the commercial dependence of the people of one State upon another, and worse than all, I found a strong dislike to the study.

I concluded that they had been trying to memorize geography, so I tried turning geography into an accomplishment.

I went to a store and obtained a quantity of white wrapping paper. This I cut into small sheets.

Each pupil was given three sheets the next morning, and he was asked to draw from memory the outline of his State; then to locate his town and designate it by its initial letter; to draw a line to the nearest city of over 100,000 inhabitants, the same way; to locate the capital and largest city; to draw through the State one railroad; and indicate the position of States bounding it and start their boundary lines, but not to draw their boundaries in full.

The class was then allowed to compare the sketch with the map. Not a few showed surprise at their ignorance. Without noticing this, I asked them to repeat the process, with but slight variation in the directions. After the third trial I collected the sketches—I could not call them maps—last drawn.

The next day I asked them to draw a line to indicate the Atlantic coast from Maine to Florida; then to show where the boundary of each State along the coast touched the water,—a short line running inland was sufficient; and to indicate the name of the State.

Again the exercise was compared with the book and repeated, and Boston, New York, and Washington located, after which the papers were collected.

The next day the coast along the Gulf of Mexico was tried in the same way;

then the Pacific coast; and then the northern boundary. Few of the last would be recognized as similar to anything set down in the books.

In the same way the Mississippi River was drawn from source to mouth; the chains of mountains given; their surroundings and trend; and the direction and distance of cities from each other shown by connecting lines and figures.

Then, with the maps before them they were asked to draw the outlines of the United States; to indicate rivers, mountains, cities, etc., as they were named; and then sent to the board to reproduce from memory.

As separate States were reviewed, the class was sent to the board to sketch the State and to locate the cities, rivers, etc., spoken of in the text. As each city was named some pupil was called upon to recite what he could about it. In this way South America was reviewed and the advance work on Europe begun.

The result was a lively interest in the study, an ability to *see* and to retain a mental picture of what was seen. It was not the object to teach map drawing but geography. And so, when in the study of Europe, the various productions were mentioned and the areas producing them were designated.

The printed page, the mind, the eye, and the hand combined to form such an association of ideas about each item or object of interest that to forget was impossible.—*Exchange.*

HISTORY FOR YOUNG CHILDREN.

Almost by universal consent the study of history had been deferred in the public schools until about the third year before graduation, when the pupil is twelve or thirteen years of age. * * * What is the objection to teaching history to children between the ages of ten and twelve? * * * Children have not the power to grasp or to retain a long series of historical facts. If you were to sail down a river a hundred miles long, you would find it very difficult to retain in memory the scenery in detail. And if, after completing the journey, you were put under a sort of compulsion to reproduce daily, in accurate descriptions every inch of the way, the tame as well as the spirited, traveling would become as hateful to you as history is to the young. Now if you were required to recall only the picturesque, you would have found the journey a delight and the recollection a pleasure. Give to children only the picturesque in history — not in short, lifeless sections, but in lengthy, graphic chapters, passing over the long intervals of dull and dreary fact—and history will become to them a story or a series of stories delightful to study and easy to remember. For instance, American history might be written in simple stories, under such heads as these: "The First Voyage of Columbus," "The Settlement of Jamestown," "The Story of the Mayflower," "The Life and Adventures of John Smith." A book similar to this was put into my school, several years ago, as a supplementary reader. The children take one chapter of about ten pages every week. Each chapter is a story com-

plete in itself. They read it over a number of times, or the teacher reads it to them, and then they are asked to tell the story. What one does not remember another does, and when it has all been reviewed, often in a very spirited manner, they sit down and write it out in their own way. It thus becomes not only an interesting history, but a very profitable language lesson.—*E. M. Lancaster.*

HUMORS OF THE SCHOOL ROOM.

This was written on the fly leaf of a book on moral science: "If there should be another flood, for refuge hither fly; though all the world should be submerged, this book would still be dry."

Fertility of school-boy excuse is proverbial. "What is this?" shouted the teacher, pointing to an ink-blot on the copy book. "Please, sir, I think it is a tear," replies the owner, meekly. "A tear! how could a tear be black?" thunders the teacher. "Please, sir, I think it is a colored boy's tear." Another boy accounted for his lateness to supper on the ground that the teacher had been so much pleased with his geography lesson that she gave him an *encore.* Another, asked to cite some of the references to Cæsar's times, muttered: "Though lost to *cite*, to memory dear."

"I have marked you punctual, sir," said a professor to a student habitually late at prayers: "What is your excuse?" "Sick, sir, and couldn't sleep." A bright Hibernian apologized himself for lack of application on the ground that "no Irish need apply."

"If it wasn't for me," cried an exasperated teacher to a dull pupil, "you would be the biggest donkey in this village." Another calls out, "Henry, you are such a bad boy that you are not fit to sit in the company of those scholars on the bench. Come up here and sit by me."

Answers to examination questions often belong to the humor of the school room, as witness the following in physiology, which we take from an article in a late number of the *Popular Science Monthly:* "Anatomy is dissecting of bodies generally lifeless." "Anatomy is study of parts of the body, physiology study of action of parts, hygiene is *application* of these parts" (Italics are ours). "Kinds of bathing, adapted to the age, quantity, quality, and health of the person." "Supernator are the muscles about the back." "The hygiene of a muscle should have proper rest and exercise." "Hygiene is the study of the time and manner of the action of the muscles and large blood vessels." "The mouth is the commencement of the alimentary canal, and it extends through the throat, œsophagus into the stomach." "The extent of the mouth helps the digestion of food." "Nervous system a decided part of the body." "A young person who goes to parties and has great excitement has generally some brain trouble, such as St. Vitus dance." "It is far more reliable to drive out the fire of a room and put on extra clothing than it is to put on on clothing and sit in front of a burning fire." "Soap is important in carrying off the fat of the body."

OUR BOOK TABLE.

TWO HISTORICAL TEXT BOOKS.

OUTLINES OF ANCIENT HISTORY, by W. F. Allen and P. V. N. Myers, (Ginn & Co.; 610 pp., $1.30,) consists of two parts, the Eastern Nations and Greece, prepared by President Myers, and Rome, which is to be published later, and prepared by Prof. W. F. Allen, of the University of Wisconsin. As illness has delayed the preparation of the second part, the present volume contains in its place the History of Rome, written for President Myers' former work. The first part has been entirely re-written, and embodies the results of the most recent explorations of the monuments of Egypt and Babylon. It is especially valuable for the admirable manner in which the connecting links between the history of the East and that of Greece, as they have been diligently and ingeniously worked out by modern scholars, are set forth, making apparent the unity of civilization and our indebtedness to the earliest civilizations in the valleys of the Nile and the Euphrates. Thus the progress of the race is seen to be continuous, and the origin of civilization to lie far back of the historic record, in that dim foretime, some elements of which are developed by the study of comparative philology and of archæology. The Greeks, however, were not mere transmitters of the knowledge of their predecessors, but, as President Myers clearly shows, the most quick-witted and original race the world has seen. The author has great skill in selecting his material and constructing his narrative, and thus in place of the usual dry and forbidding digest of a historical compendium, gives us a readable and even interesting history. The work is furnished with chronological summaries, colored maps, and numerous valuable illustrations, drawn from the most authentic sources. The publishers promise the second part of the history early in 1889.

INTRODUCTION TO THE STUDY OF THE MIDDLE AGES, by Ephraim Emerton, (Ginn & Co.; 268 pp., $1.25,) presents a striking illustration of the vivifying power of the right point of view in studying history. The period of which it treats, (375–814 A. D.) has received its coloring in the minds of all readers by the title of Gibbons's great work, which still remains the chief authority for the period. He styled his history "The Decline and Fall of the Roman Empire," and to one familiar with the splendors of that empire, its decline is apt to be the most impressive feature of the epoch. But a history of decay and decline is not an inspiring history. Fortunately the decline of the old civilization is also the birth of the new, which has now attained such strength and expansion that the study of its origin is full of the deepest interest. It is from this point of view that our author treats the period. He finds in it the three great formative forces of modern life beginning to take shape, viz: the organized Christian church; the invading Germanic races, and the dominance of the Frankish race over the other Germanic nations. His treatment of his theme is broad and sympathetic, avoiding dogmatism, and putting the reader in the way of finding

information for himself. Indeed, he has made an interesting and valuable compendium, which deserves at once to find favor with students of history. It is well provided with maps, lists of works for reference, accounts of contemporaneous material, and suggestions to teachers.

—ACADEMIC ALGEBRA, for the use of high schools and academies. by E. A. Bowser, (D. Van Nostrand, New York; 352 pp.) endeavors to make the pupil use his knowledge for some practical purpose as soon as possible, recognizing in this the right spring of interest in his work. Hence equations and problems involving them are early introduced. A good deal of stress is laid on solving quadratic and other equations by means of factors, which are often obvious on inspection, and afford a short road to results. The examples are very numerous and thoroughly progressive, the explanations lucid and ample, and the book complete up to and through progressions. THE COLLEGE ALGEBRA, by the same author, (540 pp.) continues the subject through intermediate co-efficints series, imaginary quantities, the theory of equations and higher numerical equations.

—THE DEFINITIONS OF EUCLID, by R. Webb, (George Bell & Sons, London; 47 pp.) furnishes explanations of geometric definitions and exercises for testing the comprehension of the learner. They seem well contrived to secure that perfect understanding upon which satisfactory progress depends.

—BENCH WORK IN WOOD, by W. F. M. Goss, (Ginn & Co.; 161 pp., 75c,) is a class room manual. It presents clearly the essential facts common to bench tools for wood and explains their action and adjustment; presents a thorough course of practice to develop ability to use the tools, and discusses such forms and adaptations of joints as will meet the requirements of ordinary construction. The book is prepared by the professor of practical mechanics in Perdue University, seems to be thoroughly practical, clear and concise in its explanations and directions, and abundantly illustrated with engravings.

—SELECTED POEMS FROM PREMIERES ET NOUVELLESMEDITATIONS POUR ALPHONSE M. LAMARTINE, edited by G. O. Curme, (D. C. Heath & Co.; 176 pp., 75c.,) gives a very admirable sketch of Lamartine by way of introduction, and introductions to each of the selections, with such notes as are necessary for their full comprehension. The editor is an enthusiastic admirer of Lamartine, and will give something of his enthusiasm to the student.

—COLLOQUIA LATINA, by Benjamin L. D'Ooge, (D. C. Heath & Co.; 77 pp., 30c.,) aims to inspire enthusiasm and secure thoroughness in the study of Latin, by the introduction of conversations in that language. The dialogues have come out of the author's class room, and are provided with ample notes and questions for the help of the student.

—Three small pamphlets on our table call for brief mention: TOPICS IN ANCIENT HISTORY, by Clara W. Wood, (Ginn & Co.; 25c.,) contains the history,

topics and references used in Mt. Holyoke Seminary. AIMS AND METHODS IN CLASSICAL STUDY, by William G. Hale, (Ginn & Co.; 20c.,) controverts Prof. Morris' position that the aim is to teach philology, and ably maintains that it is to study literature or the humanities. THE PHONOLOGICAL INVESTIGATION OF OLD ENGLISH, by A. S. Cook, (Ginn & Co.,) gives and solves fifty problems relating to the derivation and relations of English words.

NEWS AND NOTES.

—The Massachusetts Society for Promoting Good Citizenship, of which Edward Everett Hale is chairman, is convinced that one very important field of labor for it is the public schools, in which it seeks to make instruction in cities more systematic and general. As a step to this the society has issued a descriptive syllabus of works on civil government especially fitted for schools. Those placed on the first list as most valuable are the texts of Andrews, Davies, Macy, Martin, Mowry, Nordhoff and Townsend.

—Reports from the National Association indicate that going to San Francisco resulted in dispersing the crowd from the east all over the Pacific coast. Attendance at the meetings was comparatively light, but almost every city in California and Oregon had its crowd of teachers, sight-seeing and studying geography. In this way the association was a great success, and the fruits of it will doubtless appear in hundreds of schoolrooms. How else can a real knowledge of the new west of this country be so surely disseminated all over the land, as by sending thousands of teachers to see it for themselves? The proceedings they can read in the report this winter by their firesides.

—Altogether the evidence of progress in the adoption of the course of study for common schools is very encouraging. The reports published in last month's JOURNAL are fairly indicative of the present condition of the movement. In Dane county, Supt. Collins says in his last report, the course is "surely making its way into the best schools, and is gaining in popular as well as educational estimation. Opportunity was given at the close of the winter term for advanced upper form pupils to pass an examination with a view to graduation in the course of study. As a result twenty-eight pupils received diplomas." Supt. Ames, of the first district of Dane county, says: "Thirty-three pupils have passed a satisfactory examination in the course of study and have been awarded diplomas of graduation."

—There is in many counties of the state a notable increase in the number of applicants for second grade teachers' certificates, due, it is believed, to the legislation of 1886, extending the time for which such certificates are valid. Another result of this legislation is noteworthy. School officials are beginning to take note of the difference between a first, second and third grade certificate. The greater value now attaching to higher grade certificates naturally enhances their significance in the eyes of their holders and of school officials.

—Supt. Ames, of Dane county, says of the Teachers' Reading Circle: "Recognizing the fact that general reading is an essential element of education and an important factor in school work,

efforts have been made to give teachers an opportunity to systematically pursue a definite and well considered plan of reading. The plan is to arrange suitable work in regular courses of study, so that a little work done each week will accomplish the whole in a year. To this end reading circles have been formed in a number of places, and teachers urged to pursue the course as prepared by the state circle. The results are flattering; teachers are awake to the fact that careful, earnest study is needed to keep up with the steady advance of all things pertaining to their work, and are fast becoming members of local organizations, where they meet and discuss the topics assigned for their reading. That good will come out of this is apparent to all."

—Miss Margaret Horsford, of La Crosse, has been appointed principal of the preparatory department of the Whitewater Normal School.

—Commenting on the city school census, the La Crosse *Democrat* says: "Of the 7,225 of school age—that is, between four and twenty—3,486 attend public school, 1,058 private school, making a total of 4,544 in school, while 1,370 are employed. It must not be supposed the remaining 1,808 are mere idlers, though far too many are. Many parents are wiser than the law of the state and do not send infants of four years to school simply because they may. Those between the ages of four and seven who do not attend school, comprise no doubt the larger share of this number. The number employed is six more than last year; the number in private schools seventy-two greater, and the number in public schools twenty-one greater."

—At the examination for Teachers' State Certificates, held in Madison, July 30–August 4, life certificates were granted to the following: J. W. Barnes, Richland Center; L. E. Gettle, Edgerton; Otto Gaffron, Plymouth; Martha E. Hanson, Caledonia, Ill.; and C. H. Sylvester, Roscoville. Limited certificates were granted A. W. Dassler, Manitowoc; J. C. Perkins, Jefferson.

—The following changes of school principals have come to our knowledge during the month: L. S. Keelly goes to West Bend; P. T. Nelson and Henry Krueger go to Hartford; D. Cameron to Kewaskum; M. A. Hatch to Boyd; Paul Bergen to Montello; E. A. Campbell to Milton; C. S. Groesbeck to Centralia; H. C. Curtis to Waupun; F. E. Peterson to Eagle.

—In the public school at Palmyra, of which H. W. Rood is principal, woodworking has been successfully introduced during the past year. A shop has been fitted up with benches and the most necessary tools, and pupils who choose encouraged to spend forty-five minutes at work in it each day. There is no lack of recruits, and the interest in other school work is greatly increased, while many products of the pupils' labor appear in the schoolroom. This school not long since added over two hundred dollars worth of books to its library.

—Dr. Dorner, formerly of the German English Normal School, has been appointed principal of the 13th District Primary School in Milwaukee, and C. F. Zimmerman principal of the 17th District School, vice H. J. Menzie, resigned.

—In Waukesha county a commendable zeal for the improvement of country school houses seems to have arisen. A year ago Supt. Smith reported that there were ten poor school houses in the county, but during the year six new buildings have been erected. In the first district of Dane county five new school houses have been built during the year, at an aggregate cost of $10,020.

Supt. Ames says that "they are all well constructed, and provided with furniture of the most approved pattern." A great defect in the new houses, as well as the old ones, is the neglect to provide for proper ventilation.

—At Cassville, J. N. Williams becomes principal of the public schools; F. K. Shuttleworth, at Potosi; C. R. Showalter, at Lancaster; Harry Keyes, at Bessemer; J. E. Buler, at Ablemans; F. M. Groat, at Lavalle; T. C. Morrow, at Wonewoc; E. V. Wernick returns to Hillsborough; Mr. Woolcock goes to Westfield; Mr. Gardinier to Green Bay; T. E. Chandler to Clintonville; W. J. Pollock to Kenosha; S. F. Grubb to Weyauwega; P. H. McGovern to Chilton.

—C. H. Leach, for many years principal of the Kenosha schools, has accepted a position in the Chicago schools.

—In Juneau county, nineteen graduated from the district schools this year, making the total number of graduates between seventy and eighty. Those holding district school diplomas are received into the high school at Mauston and New Lisbon without further examination. The arrangement tends to build up the high schools, and to produce more contiuous and satisfactory work in the district schools.

—At Mount Sterling, A. McDowell held a summer school this year, with an attendance of from sixty to seventy. Mr. Showalter's school at Cassville was also well attended.

—An interesting feature of the meeting this summer, in Minneapolis, of the Business Educators' Association of America, was the transactions of that section known as the School of Civics, of which R. C. Spencer, of Milwaukee, is president. Its object is to encourage instruction in such subjects as political economy, political history, political ethics, the duties of citizenship, and so on. Ten interesting papers were presented to the section, and the discussions were general and earnest.

—At the last meeting of the Board of Regents of Normal Schools a measure was adopted providing for local examinations for admission to these schools. The questions are to be prepared by the Presidents of the schools the Secretary of the Board and the State Superintendent. Such local examinations may be held twice each year, at specified times and in such counties as make due application through the County Superintendent of Schools, who shall act as conductor of such examinations when appointed, under such rules and regulations as the committee may prescribe. The examinations thus authorized shall be held as nearly simultaneously as possible throughout all counties making application. It is suggested that the papers made in the several counties be sent to the President of the Normal School located in the "Institute District" in which the county may be situated, until it may be determined whether this distribution of labor in examination of manuscript prove seriously unequal. The papers made by candidates shall be examined and ranked by the teachers of the respective schools, and report made to the Secretary of the Board, who shall issue certificates of admission to all successful applicants, and such certificate shall constitute the basis of admission to any State Normal School (except that at Milwaukee), at any time within two years from date of certificate, provided that it be accompanied by required "nomination" and other satisfactory evidence of fitness.

—The Board also adopted the following one year course of professional study: (a) A course of ten (10) weeks in review and methods upon each of

the following-named branches: Reading, arithmetic, geography, grammar, writing and physiology (especially in the hygienic effects of stimulants and narcotics). (b) A special course of twenty (20) weeks in school management, as related to organization, discipline, classification, courses of study and school law. (c) A course of twenty (20) weeks in theory and art of teaching, supplemented by twenty (20) weeks of class-teaching in school of practice. (d) A course of twenty (20) weeks in drawing, and at least ten (10) weeks in composition. (e) A course of twenty (20) weeks in psychology, which shall "clearly include" an examination of the nature and classification of the mental faculties, their laws, and methods best adapted to their development. For admission to this course examination is required on all branches for first grade county certificate, and proof of three years' successful teaching.

—The institutes this season are well attended and seem to be doing excellent work. The shorter time of holding them produces greater continuity of attendance. The best record we have seen is that of the institute at Princeton. Seventy-eight were enrolled, all but five when the institute opened on Monday morning, and there were no cases of absence or tardiness during the session. These conditions for good work are rarely surpassed, and the spirit of the institute was in accordance. At Chilton, one feature of interest was the exhibit of teaching apparatus prepared by teachers, of the county reading charts, picture charts for language work, maps, number work of various sorts, and some physical apparatus.

—At the Black River Falls institute, Supt. Hoskins wrote on the blackboard the following questions, to which we append the answers obtained: What educational papers do you take? (Sixteen take two or more; twenty-five take one; eight take none; of the latter two were teachers.) What works on teaching do you own? (Thirteen own two or more; twenty-one own one only; fifteen, none, and of these eleven are teachers.) Have you a dictionary? (Six have Webster's Unabridged; ten, Webster's Academic; twenty-one the American or others, and twelve, none.) Have you a History of the United States larger than a school history? (Fourteen have, and thirty-five have school history or none. Of those owning larger histories, seven were teachers in the graded schools.) The Supt. adds: "The American and other dictionaries are so small as to be practically of little value, so that thirty three of the forty-nine are not properly supplied with a good working dictionary, and thirty-five are without a good history of the United States. Is not this suggestive of the reason why so many of our schools fail to teach these branches properly?"

—The following resolutions were presented to those in attendance at the Wisconsin Summer School of Science and Pedagogy, by the committee whose names are signed to them, and unanimously adopted, on Tuesday, August 3, 1888. They are some evidence of the interest which the work of the school aroused:

WHEREAS, The Wisconsin Summer School for Teachers is about to close its second session with numbers increased and usefulness enlarged; and

WHEREAS, It is our earnest hope that the good work it is doing will be extended far into the future; and

WHEREAS, We expect that as its op-

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portunities become better known it will be deemed indispensable to efficient work in many departments of the public schools:

Resolved, That we tender our hearty thanks to those who organized and have largely provided for its support; also to our instructors, for their efficient and unwearied labors and kindly interest in our welfare,

Resolved, That we desire to see some steps taken toward putting the Summer School on a permanent basis.

Resolved, That we express to the absent members of our profession our high appreciation of the advantages here afforded, and the hope that more will find them available hereafter,

Resolved, That copies of these resolutions be sent to the State Superintendent of Public Instruction and to the secretary of the Summer School.

CHAS. M. FOX,
LAFAYETTE BLISS,
W. R. HEMMENWAY,
HATTIE MERRILL,
A. W. BURTON,
Committee.

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THE SCHOOL TEACHER AND HIS MISSION.

[Address before the Wisconsin Teachers' Association.]

LADIES AND GENTLEMEN OF THE STATE TEACHERS' ASSOCIATION: It is seldom the good fortune of a lawyer to have such an audience, such an occasion and such a theme. He usually addresses twelve men who are constrained to listen by the sanctions of an oath; who attend under the pains and penalties of the law. An audience always selected, but not always select; chosen by lot, without reference to fitness or ability. We have one manifest advantage over other speakers; the jury may go to sleep, but they cannot go away. The advocate is in no danger of losing his audience although his hearers may lose themselves during the address.

It is a genuine delight to meet such an audience as this; to be brought face to face with these cultured men and women who have in custody the intellect of the next generation. I feel constrained, though not specially commissioned, to speak a word of grateful recognition on behalf of the state to these tireless laborers, who, in the broadest sense, are devoting their lives and energies to the service of the nation. I want to assure you confidentially that we think a great deal more of you than we have given you reason to suppose. We beg of you not to guage our appreciation and esteem by the salary we pay. How can we look with indifference upon your labors? The cohorts that you are drilling will soon overpower us all, and occupy every position we now hold. Yes we may already hear their eager footsteps as they press on towards us. In a few short years they will snatch the sword, the ferrule, the gavel and the gown from our trembling hands. Then will they repre-

sent all that remains of our names and fortunes, being the residuary legatees of our honor as they are now the embodiment of our dearest hopes.

We are not so obtuse as to believe that you are actuated by the paltry stipend that the state doles out with sparing hand. You would not be seeking mercenary gain in this barren field. The work itself has peculiar charms and furnishes sublime emolument. There is compensation far above the plane of hire and salary. You climb among the rugged peaks of the Rocky Mountains; you will be often faint, weary and foot-sore, but you are well rewarded for your tiresome effort. Nature reveals herself in her naked sublimity. Stand there above the timber line, and witness the approach of the frowning thunder cloud that rolls majestically along between the mountain peaks almost on the level where you stand. See the forked tongues of flame that dart out on either hand. Hear the continued peals of deep-toned thunder as they echo and re-echo among the crags, reverberating over the deep sounding caverns. See the stately procession pass like a terrible panorama of evil. See it cap the neighboring peak with a covering of snow, which responds to the first sun-burst with all the glory and brilliancy of ten million diamonds, flashing a tribute of praise to the God of all beauty and grandeur who at such an elevation seems very near. Thus may we typify the sublime intellectual heights where the teacher has his triumphs as well as his trials. It is a partial view that regards the dingy walls of a school house as bounding a cramped and narrow horizon. It takes in enough of the Eastern sky to portray all the mingled glories of the intellectual dawn. It is the birth-place of ambition, the nursery of patriotism. Over it stands the divine star of Bethlehem. Thank God it has already attracted the attention of the wise men. It has become the star of empire. What a noble thing to be a priest in such a temple. To fashion and temper immortal souls — what duty more delicate — what trust more sacred! To adjust and set in operation the subtle machinery of thought that will run on through endless cycles. To preside over the awakening of power that has no limit but omnipotence. To impress the stamp of individuality upon mystic forces that will shape destiny in future ages! These are the grand prerogatives of the teacher. Who can appoint the limits of his influence?

Standing upon an ancient mining dump in old Mexico the other day, I saw a piece of lime stone that had been torn away from its resting

place in the bowels of the earth. Upon that solid rock was the impress of a delicate fern. Every stem, vein and fiber was faithfully outlined. There was the plant reproduced in stone, as perfect and graceful as when it nodded to the wind in the primeval swamp. The dull rock had been true to its trust through all the vicissitudes of ages. This little fern, shrouded in the obscurity of a desert waste, escaped the scrutiny of all human eyes, but by accident its secret was betrayed and at this late day, the history of its unobtrusive life is read in the solid rock. Here is an object lesson worthy of thought! The teacher's outline is cast not in plastic mud, but in the enduring substance of the human mind. His individuality is inwrought upon it and clings to it throughout its endless career. In this way it is safe to calculate that Socrates had a hand in framing the constitution of the U. S; that Aristotle helped to fashion the immortal proclamation of Emancipation. The fruitage of a teacher's life is not garnered at the grave. His harvest of influence cannot be known until the last stroke of the pendulum. What the schoolmaster gets in money, is a small installment of what society owes him. The heavy balance will be carried forward to the new ledger of the future.

Now pause to consider the playful peculiarities and childish contradictions of society, at which it is better philosophy to laugh than cry. The public is as exacting in its requirements as it is stingy with its rewards. The schoolmaster must be as courageous as Achilles, as wise as Solomon, as patient as Job. He must be a scholar with the graces of Chesterfield, the taste of Ruskin and the austere morals of Luther. He must have as many eyes as Argus; as many hands as Briareus. He must be as impartial as the magnetic needle; and all these qualities must be tempered by that divine tenderness which suffered little children to come and forbade them not. In other words he must be an exponent of the highest type of manhood. He must not only be posted in text books, but must be master of the whole field of human thought and action as well as human nature. He must also have power to exorcise the evil spirits of our nature. He must be the medium through which they escape from our hopeful young rebels. One such devil was enough to demoralize a whole herd of swine, but a teacher may have half a hundred such filtered through him in a single year. His discipline must be as severe as his manner is suave, and all this without the birch stick — that potent adjunct of early days.

This paragon of excellence is entrusted with the *Lares* and *Penates*

of our households. He keeps the crown jewels of our homes — charged with the destiny of immortal minds; compelled to carry a crushing weight of responsibility — all of which is sustained with marvellous fidelity. I challenge any other field of human endeavor to show devotion that has approached nearer to the line of the heroic. Victor Hugo has made the whole world weep over Fantine, who sacrificed her hair and teeth for her little Cosette; but many a woman in your ranks, prompted by unselfish devotion to duty, has offered up not only hair and teeth, but the bloom on her cheek and the lustre of her eye in the interest of children who sustained no other relation to her than pupils. Her self immolation is regarded as a cheap common-place affair, her name is unknown to song or story and the state makes no provision for these crippled veterans.

How does society reward this public servant of whom it requires so much? *Mirabile dictu!* he stands no chance with the charlatan or the mountebank. Society apparently puts a higher estimate on its professional ball-tossers, man-milliners and shoulder-hitters. The skillful jockey reaps greater reward. The public is uniformly outbidden by private corporations. Business offers greater attractions. Nobody thinks of hiring a good lawyer for less than $25 a day. An equally good teacher must be content with $25 a week. What a grim illustration the newspaper of yesterday furnishes. Lord C. J. Coleridge was presiding at a trial in England where the evidence showed that one Wood, a jockey, was receiving annually for his services $50,000. When Court adjourned the Chief Justice went to preside over a meeting called to make some charitable provision for the dependent family of the late Matthew Arnold. Matthew Arnold! the poet, the professor, the philosopher — who, dead, is worth more to the world than all the jockeys who ever drew a rein. We witness with disgust the economic farce annually enacted by the School Board. Some reformer takes the knife and pares down your poor, puny salary until the blood runs. Then he kisses his hand to the crowd, like the clown who awaits applause after some inexpressibly silly caper. I wish that every School Board in the state were here and that God might give me inspiration of thought and cogency of language to unmask this arrant popular humbug, and expose this spurious and extravagant economy. Salaries should be large enough to retain the brightest intellects. They are cheap at the money. Good men yield more to the state than good mines. No expense is

spared to develop our material resources. Brain power is intrinsically worth more than water power. How can we exercise too much care in selecting the men and women whose intellectual fashion is to be reproduced in the future American citizen!

The destiny of society is quite as much in the hands of the schoolmaster as of the legislator. Why then should not the public be as well represented in the school house as in the Senate?

There is one view of the subject suggested by this sentiment which has not received the attention that its importance demands. The intimate practical relation that the teacher bears to the state. In a just and comprehensive sense, the American teacher is an officer of the state. His functions are essentially political. Under our scheme of Government, the free school is a part of the machinery of state. Where the majority rules, it is indispensable that the majority be enlightened. A man to be free, must be intelligent. History teaches that a majority may be as cruel and bigoted as any other despot. Government by the people is the dream of enthusiasts, except the people be intelligent. You may have a Republic in Mexico, but the name and form are used as a mask for millitary despotism. Common consent can never be a stable foundation for Government without common intelligence. In Europe it takes a million armed men to keep a National flag flying. Supremacy there means physical force. This is as true in Republican France as with her monarchial neighbors. In America universal intelligence has proven a sure and stable foundation for sovereignty. The halyard that keeps our flag floating in mid-air, is held by citizens who wear no uniform and carry no sword. They are the teachers of our public schools.

Compulsory education is a political safe guard. The ballot in the hand of an ignorant citizen is more dangerous than a hand grenade. Darkness and danger are inter-convertible terms. All progress now lies in the direction of intellectual advancement. Teach! Teach! Teach! This is the shiboleth of progress and good politics. The state is called upon to promulgate anew the creative fiat. "Let there be light." Let it penetrate the dark recesses and inaccessible caverns of society. Flash it into the eyes of the hideous social monsters who lurk in these dark dens. They cannot endure its pure penetrating rays, and will skulk away in shame and silence. The steady light of education is much more available as a protection than the lurid intermitting flash of

the gun. Victor Hugo well says that "compulsory education is the recruitment of souls for the light." The schoolmaster is destined to become the right arm of the state, for the morning is dawning. God speed the day when the man with the sword must go down before the man with the ferrule; when problems of state will be thought out rather than fought out! How efficient a factor the educator has already been in the world's progress! Reflect for a moment on this anniversrry of our Nation's birth, upon the gallant march the human race has made in the last century. What a majestic spectacle this grand procession of Nations! How it thrills the heart to see that our Republic leads the van! The starry flag marks the head of the advance guard of progress. That banner when it is held up to catch the kisses of the sun, represents all the noblest tendencies, the choicest hopes, the purest aspirations of the human race. Let the teacher with religious fervor instill its love deep in the young American heart. Yes, we love it because its scarlet stripes typify the rivulets of patriotic blood that once visited the hearts of kinsmen and comrades. We love its deep blue field, which suggests forever the constancy of patriotic loyalty. We love its stars, whose pure light has illumined the pathway of duty through rayless night and battle-storm, through trackless swamp and tangled forest. We love it because it stands for intellectual liberty as well as political freedom. We love it because it is a constant symbol of hope to the down-trodden of other lands, who from the hovels of Ireland and the prisons of Siberia cast their faded eyes upon its shining folds and take heart for the morrow.

J. V. Quarles.

RACINE, WIS.

ENGLISH IN ELEMENTARY SCHOOLS.

In the curriculum of the elementary schools, one of the standard subjects is language. Whether pursued under the name of grammar, language lessons, composition, or rhetoric, the aim is professedly the same. Each or any one of these branches is included in the scheme of study upon the presumption that it is a means of training in the "art of expression." There seems to be no want of belief that grammar, or grammar modified into so called "language lessons," is a proper prescription for infants or youths, and that such training as the prescribed grammar affords is really the much desired training in the art of expression.

My purpose in this paper is to show that prevailing means are deficient, and to point out the chief defects of method in such a way as will suggest the needed amendments. It is very easy to express exactly what is desired to be accomplished in teaching any school branch of knowledge, and quite easy to accept as an efficient means some old and familiar formula. Thus we accept the pretentious aim of grammar teaching. English grammar is the supposed means of teaching children to use the English language correctly and effectively. Considering the time devoted to the subject the results are quite insignificant, both as to correct habits and as to the ability supposed to be cultivated. In spite of the most evident discrepancies between the aim of grammar teaching and the actual results of such teaching, we still stick to our text and grind away with persistent serenity of faith in the efficacy of a means which is clearly impotent but is still highly respected.

The inadequacy of prevailing methods of language training is chiefly manifested in the prominence given to analytic exercises. The uniform misapprehension of the real nature of the power of expression is indicated by the preference of teachers for a style of treatment quite in opposition to nature. The difficulties growing out of school exercises in grammar are not the difficulties of enlarging and perfecting the power of expression; they are difficulties purely artificial, the mastery of which adds little or nothing to the ability to construct and adapt expression to thought or facts. As I have had opportunities of observing results in an extended field, including elementary schools, high schools and normal schools, the grounds for this criticism are to me very apparent. The means adopted to train in grammar are too exclusively analytic. They absorb the energy and interest of pupils in formalistic and technical exercises which do not affect beneficially their habits of speech and whichdo not develop their powers of expression.

I lay no claim to originality in this criticism. The recent modifications of the texts intended for language training recognize the essential requisite of improved methods, and, so far as the current prejudices of the teachers will permit, point the way to more fruitful results. The grammars, however, still have the field, and what is done on the side of training in composition is attempted as something in addition to a certain indispensable modicum of grammar. Grammar still has the credit of teaching "the art of speaking and writing the English language correctly," and, as that is its definitive purpose, grammar with

its elaborate requirements and technical formalism is supposed to be an indispensable preliminary to accomplish what is, in fact, never accomplished till, either by accident or purpose, grammar is abandoned and normal methods adopted.

A close inspection of the customary exercises of the school will, I think, support this apparently broad and radical criticism. In some so-called language books of recent issue hundreds of pages are devoted to twisting out of the child, by the most crooked and indirect means, supposed evidence that he is gaining benefit from the exercise. Such requirements as the following exhibit an utter blindness of aim: "Make a telling sentence with the word man in it." "Make an asking sentence about a pig—an exclaiming sentence about a rose." "What is a telling sentence?" "What is an apostrophe?" "Write a sentence with a name word and an apostrophe in it." "Write a story about a bird." "Write ten sentences in which you use an adjective and an adverb." To these questions is added the usual grist of definitions, and to give importance to this kind of work the definitions are made the leading points of the text. "Define an asking sentence or an exclaiming sentence." "What is an interrogative sentence?" "Make two sentences asking a question," etc., etc. Thus the work of sentence building is perverted to the artificial end of exemplifying the formal and technical facts of grammar.

Another confusion of aim in purpose is shown in the preference given to exercises in sentential analysis. Parsing is said to be grammar gone to seed. The figure is not very clear. Analysis seems to be the seed of parsing, and by far the greater part of this work as conducted in the elementary schools is as profitless as wandering in a maze where the only object, after you once get in, is to find the way out. Analysis was brought to the front to fill the void made by the decline of parsing. Before the pupil has been systematically practiced in writing his thoughts upon the most common topics he is put to the task of analyzing a variety of scraps of antiquated composition. Blank verse is the favorite subject matter of the modern teacher. Tit-bits from Chaucer to Milton are served up daily. In dealing with these extracts the same order and formula are always carefully followed. The subject is sharply and carefully sought: the modifiers of the subject and the modifiers of the predicate are discovered: ellipses are filled, prepositions are supplied, and usages which seem well-nigh outrageous are thus justified and ex-

plained. When the grammatical relations are pointed out, and the pupil is taught that in this jumble there is consistency, the teacher feels that the problem is solved — that the glorious goal is won. Analysis is repeated the next day and the next, and the *pupil's instruction in language terminates* with other involved pieces of composition presented by the examiner, (a ridiculous farce) as the final test of the ability of the *pupil to use the English language with force, fitness and facility.*

In all this analytic work — in requiring this facility and familiarity with the technique of analytic grammar, the vital and important scope of composition is quite ignored. In the analysis of sentences the chief thing to be discovered as an aid to composition is the law of arrangement by which the thought has been clearly expressed. The chief thing upon which the pupil's taste and ingenuity should be exercised is a criticial observation of the practice of the author in availing himself of certain possibilities of arrangement. The task can have no practical value except to reveal some merit of construction. The examination of involved and antiquated sentences is profitless to pupils who have acquired no power to combine elements of speech after the modern standard, and who are not familiar with the simplest arts of expression of common thought. To be a legitimate school room occupation, the analysis lesson should lead up to some suggestion of value to the pupil when he comes to express a complicated or involved idea. The devotee to analysis, the crank on diagraming, never calls the pupil's attention to the fact that the arrangement of the sentence under discussion is particularly happy — that the author has selected the most appropriate words and placed them in the most effective arrangement to express his thought.

Power or facility of expression is not to be developed by sentential analysis of extracts from Paradise Lost. Inversions, ellipses, poetic license may be explained with profit, but such exercises afford the pupil no training in plain, direct, modern construction. When he attempts to pen his own thoughts, no habit of statement, no knack of connecting, arranging and pointing his remarks is cultivated. The need of analyzing his own composition is not taught to him. He writes without analyzing, and analyzes the like of which he will never have need to write. This puzzling over the extracts of some old philosopher or poet is thought to be disciplinary—to sharpen the faculties and exercise them in discerning grammatical relationships which are obscured by tortuous misplacements

and inversions—a worshipping of the shadow of the old classical fetisch and defended on the same plan.

In reshaping our methods it is important to recognize that the prominence given to these exercises in analysis—the diagraming nonsense that occupies so much time—is quite out of proportion to its value as a means to the end of language training. The most remarkable circumstance in the average school instruction is the astuteness of teachers on this analytic line. On the one hand, we may observe the hairsplitting requirements which are practiced, and, on the other hand — when actual construction is the lesson — the application of the most gross and clumsy tests. The pupil may violate every law of arrangement in his written composition, and exemplify every fault which makes feebleness and confusion in the statement. If he obeys the rules of grammatical concord and minds his capitals and periods, his exercise gets credited one hundred. But the same pupil is lost should he fail, as required, to write a sentence with a double objective and an adverbial complement to the predicative infinitive.

Why this preference for means so indirect, and this neglect of the natural and direct devices for training in expression? The answer is easily found. The tricks and formulas of grammar are systematized and reduced to exactness. The analytic and grammatical exercises for the class-room may be made the same for all pupils, and there is but one result expected. The hurried and mechanical teacher may say with certainty and rapidity "this is right," "that is wrong." The old fashioned machine method permits of a final and positive estimate. On the other hand, the constructive method requires ideality and true art in the teacher. In constructive work it is difficult to reduce class exercises to the definite test of correction used in the factitious exercises of analysis. Individual differences are at once manifested. A hundred improprieties may appear in one lesson. Again, the composition exercise, with the inventive and constructive powers, is ideal in its aim. It requires on the part of the teacher a totally different handling.

The basis for improved methods in teaching English is already suggested in the foregoing remarks upon misapplied analysis. The leading principle of a better system is in practice — practice judiciously adapted to the age and capacity of the learner, and supplemented by systematic standards of literary criticism. A correct command and use of English construction is only to be acquired by practice. Not the miscel-

laneous, helter-skelter "write-me a-story-about-a-cow-and-then-rub-it-out" sort of business — not the practice of the pupil to be corrected by the teacher and then erased and forgotten by the pupil. The scope of the criticism, and its degree of severity, must be wisely adapted to the capacity of the child, and so managed that in his practice the child is instructed to apply the rules of correctness, propriety and force in expressing his own thoughts. This ideal system must be consecutive, and become gradually more rigorous in its tests. Beginning with the simplest requirements of grammatical correctness and rhetorical arrangement, it should by degrees lead the pupil to the habit of self-criticism, and develop at last a keen and alert sense of inconsistency, and that appreciation of fitness in speech, which is the test of true culture in language.

There is a glimpse of this ideal in the method of recent contributions to the list of text-books; but by far the majority are instances of quackery — prepared at the suggestion of competing publishers, and to flatter into authorship men who have school board votes on questions of text book adoptions, but whose pedagogical knowledge is vain and confused. One writes language and number lessons combined. Another makes the whole subject of language teaching a farce by publishing a language spelling book, in which Emerson's subtle distillations of wisdom are offered as models of composition, or as dictation exercises. Such works are planned upon the notion that pupils get command of correct and forcible speech in an incidental manner. A language reading book would be a compatible union of two school topics, but there is a language side of all reading, after which a good teacher always looks. The meaning of words and their exact force in the selection — the ideas they suggest — the information brought to the child — these all contribute to that fund from which the pupil draws when he clothes his own thoughts in dress of his own devising. But the object of this paper is not to explain the acquisition of those stores of verbal signs or the range of notions which enrich and re-enforce expression. My aim has been to show the need of systematic treatment in consonance with the nature of that power we seek to develop in special language instruction, and to show that the fault of prevailing methods is due to their exclusive attention to rule and analysis — their indifferent attention to principle and application, and the neglect of such a system of consecutive lessons as will cultivate skill, taste, and real power in the art of expression.

MILWAUKEE, WIS. *Wm. E. Anderson.*

WASTE IN ELEMENTARY EDUCATION.

[A Report presented to the National Council of Education at San Francisco, July 16.]

I.

Waste in school work results either from defective plans or from defective methods. The purpose of this paper will be to consider, in the main, the waste in elementary education resulting from defects in our current plans or programs. It is assumed that the fundamental tests of of a school program are two: 1st, does it conform to the natural order of development of the minds of the pupils? 2d, does it also conform as effectively as possible to the needs of our communities? The mere statement of these principles draws attention to the fact that, while the first is comparatively fixed and unchanging, the second necessarily varies with the development of our social and industrial life. The material which should make up our program is determined essentially by the needs of our communities, and its study is therefore a branch of sociology; the disposition of this material depends upon the intellectual development of the pupils, and is determined, therefore, by a rational psychology and by experience. Clear as this distinction is it is often overlooked, and much profitless discussion is the result.

We have, as the basis of our work, a traditional program, the main elements of which have approved themselves to both reason and experience as entitled to the place assigned to them. Our practical problem is, therefore, the adjustment of this to the new demands arising out of the progress of the last century. This has been chiefly in the lines of (1) political liberty, (2) scientific knowledge and (3) industrial development. Each of these calls for some modifications of the program of elementary education, through which alone the schools directly affect the great body of the people. To put the case briefly, the elementary schools are called upon to give to their pupils more serious and systematic instruction in civics, in science and in industry. It seems impossible to question that these demands are in accordance with the needs of our communities; it is quite generally admitted that children of the age referred to are capable of being naturally and profitably developed through instruction in these lines; the difficulty, we are told, lies in our already over-crowded programs, and in the scarcity of competent teachers. The latter can be supplied in time through the efficient

use of agencies already in operation; but how shall we overcome the other?

These considerations make the inquiry into the existence of waste in our present schemes of great practical importance. This inquiry will be most satisfactorily pursued by first seeking a clear apprehension of what waste in education is, and then developing a few simple tests of its existence.

It is a mistake to assume that waste in education is always doing that which is useless, or employing more time in securing results than is actually necessary. These are both forms of waste, but not its most insidious orms. The doing of that which is less useful in place of that which is more useful is the more common and more dangerous sort. The making of a perfect program is choosing out of the many things which might be done the few which it is most profitable to do. Whenever profitable things to do are chosen in place of more profitable things which might be done there is waste. It is not a sufficient defence of any school practice, or any element of a school program, to show that it is useful; we demand, further, a reasonable assurance that it is as useful as any thing which can be put in its place. The point is of great importance, because the common custom is to rest the defence of school practices upon a showing of their utility, instead of a showing of their greater utility as the case demands. Waste, then, may be defined as the failure to turn the time and effort of the pupils to the best possible account.

Without assuming to state exhaustively the principles through violation of which waste results in our programs, we may name the more important as follows: (1) The principle of necessity; (2) the principle of combination; (3) the principle of utilization; (4) the principle of self-help; and (5) the principle of intermittance.

(1) The principle of necessity is practically most valuable when stated negatively. It is—not to teach what is not needed. It is very general in character, and is the chief test to be applied to the matter presented in each subject of instruction. We are to understand "needed" as including both what the pupil requires for immediate use and what is essential to systematic growth. Teaching matter already familiar to the pupils, or which they will learn for themselves by the time it is needed, is pure waste, and no exquisite art in doing this can ever make it worth doing. In language work especially this error is to be constantly

guarded against. Five years hence our pupils will speak and write just as well if they have not had a good many of our present ingenious primary drills; and we must jealously exclude all work which seems to justify Rousseau's paradox that the main end of elementary education is to waste time.

(2) The principle of combination affirms that the more useful ends an exercise subserves the more valuable it is. We have listened too exclusively to one voice enjoining us to "teach one thing at a time;" and this excessive analytic tendency sometimes makes school work thin and barren. The voice we need to hear is that of Jacotot proclaiming that "all is in all," so that when we teach little we may teach much. Real growth results from the interpenetration and integration of various knowledge and discipline; and we should plan so as to restore, as far as possible, the vital, organic unity of knowledge, which our technical divisions for teaching are obscuring. It is not without reason that some school programs have been called "soul-disintegrating." They are over-crowded by needless and devitalizing separations of matters that should be done together. Illustrations of this appear in the general features and in the details of school programs. A large part of school work in language is pure superfluity. Language is an instrument for the expression of thought, and is properly learned, not by tinkering sentences, but by expressing thought. It is an integral part of every good school exercise, and power with it comes from these, and from reading, and from social intercourse. Again skill in arithmetic consists in accuracy of computation applied to correct logical analysis; but by the multiplication of "cases" with rules and illustrative examples this essential unity is obscured in the mind of teacher and pupil, and mechanical processes set up in place of it.

(3) The principle of utilization, were it not for the necessity of emphasizing it, would properly appear as a detail of the preceding. It affirms that every attainment should be turned to its proper use as fast and as far as possible, and further attainment in it should in general be sought in connection with use. The limitation will be most conveniently considered under the principle of intermittance. After sufficient mastery of the initial difficulties in reading is secured growth is attained not by the routine reading class drills, which count for very little, but by turning the acquisition to account as a means of entertainment and of acquiring information. We read to get something, and getting something

is at once the reward of reading and the test of its success. It is doubtful whether all readers above the fourth are not superfluous, a misdirection of effort which by inverting means and end mechanicalize school work, and dull the edge of the pupil's interest. Penmanship, in a similar way, intrudes itself fruitlessly as a special exercise into school programs after its improvement should be mainly secured in subordination to other ends.

(4) The principle of self-help applies more vitally to methods than to programs, but cannot be overlooked by the makers of the latter. It demands that the pupil be thrown as much as possible upon his own resources, be taught to observe and think for himself instead of merely to receive. It demands, in the making of school programs, the abandonment of the effort to drill into the memory all the details of knowledge and its applications which a pupil is at all likely to need, and the substitution for it of the cultivation of right habits, good sense, and sound judgment. Under its application most of the meagre, dry-as-dust generalizations which make up the text of our common school geographies will be ignored, and the pupil equipped to find out what he needs to know from maps and books, with a well-formed habit of doing so. His arithmetic will shrink up to very moderate dimensions and exact less of his time; and his teacher in language will not consider it necessary to drill him in writing telegrams, advertisements and notices of public meetings. What an artificial intellect we are making when we think it necessary to furnish it with such minute details!

(5) The principle of intermittance is related to the laws of mental development. Mind and body come slowly to maturity, and what is well-nigh impossible at one stage is easy and quickly acquired at another. Because the completely rational view of the subjects of elementary education is not attainable before the pupil is fourteen or fifteen years of age, it does not follow that he must be kept for eight or nine years steadily marking time in each of them. When in any subject the degree of knowledge and skill appropriate to the pupil's age is attained, further systematic exercises may well be intermitted until he is mature enough to make another real advance. In this matter much yet remains to be learned by a proper combination of theory and experiment; but it seems certain that in the re-adjustments which are inevitable its importance will be more fully recognized than heretofore. Especially is this true when in the interval forms of utilization of what has been

acquired are available. In such branches as reading and penmanship, for example, it seems certain that after the initial training which brings the art to the point of utility, periods of dependence upon utilization may properly alternate with brief periods of special training adapted to the higher general development of mind and body which has supervened.

II.

The application of any principles of criticism to existing programs should be conservative and closely attendant upon experience. The difficulty of it in a paper like this is greatly increased by the diversity of usages in different schools and in different sections of the country. What seems most likely to be useful is some indication of the manner in which the new elements demanded by the needs of the times are tending to adjust themselves in existing schemes.

An examination of the historical development of school programs during the last twenty years shows the following tendencies with reference to the chief topics now demanding admission:

1. Elementary science is finding a footing in the oral and language work. This seems an enimently desirable combination, inasmuch as it furnishes opportunity for the pupil to express accurately the results of his own observations, and, on the other hand, under wise direction, may serve as a means of cultivating accurate observation and even original research. We have as yet only begun to utilize in an imperfect way the means of training which further intelligent and systematic effort will make available in this direction. Without the addition of one hour to the schedule times allowed to oral and language lessons it will be possible to introduce all that rational reformers deem desirable in this matter, by simply substituting well selected scientific subjects in place of trivial exercises now in use. But science is finding its way into school work at another place where experience is showing that it has been thin and barren. There are now accessible several series of science readers adapted to different grades of school work. These make the reading exercise what it should be—a means of getting something out of books, and something consecutive and tolerably coherent. While it is not desirable that such books should take the whole time of the reading exercise, their value as a means of stimulating curiosity and broadening the mind with fruitful knowledge, thus supplementing successfully the oral

training, which keeps closer to the spirit and method of science, will hardly be called in question. The work most needed at present in the development of programs is properly to adjust these two lines of growth in elementary science to each other, and to the whole of school exercises, and to make them as valuable as possible.

2. Civics shows a tendency, as yet less pronounced, to the same lines of growth. History naturally comes to the child as a series of stories, and these are apt material for language exercises. Like the first lessons of elementary science, they lead up to geography, which they serve to invest with a vivid human interest. Some knowledge of plants and animals and of historic events makes geography, which localizes them in space, a necessity and a delight. They ought to grow about it for a time, and then it in turn should grow about them. Geography is but a means to the larger interests of science and of man, and we should probably gain much by hastening forward to these interests as soon as a tolerable basis is fairly secured, and keeping the other subordinate but growing. It seems not improbable that all the time necessary for acquiring a child's knowledge of the history of the United States and of England might be taken from the usual schedule time of geography without real detriment to the latter study. The ease with which children are interested in history suitably narrated makes the total omission of it from the majority of elementary programs all the more surprising, and we can attribute it only to the force of tradition and failure to study independently the elements of program making. The deplorable result is that the great majority of children leave our schools without any instruction in the history of their own country. Whether it be substituted for part of the geography or as part of the reading let children of ten years of age have some instruction in the history of the United States.

Some knowledge of local government should also be given in early oral or language work, which geography should have enlarged by familiarizing the pupil with the chief forms of national organization, and the historical reading, already referred to, have enriched with details of the growth of our own system; so that in the last year of the elementary course he would be well prepared to take up somewhat systematically the study of our own institutions. Experience seems to have demonstrated the feasibility of this, and no one will deny its desirability. The comparative table annexed shows how it has been introduced into some

programs; and with its introduction after geography and history the elementary course in civics becomes fairly satisfactory.

3. The considerations thus far adduced present a satisfactory unity in elementary work, but they relate to one side of it only. It seems not unlikely that for the complete unification we must look to the development of industrial education. For this allies itself on the one hand with drawing and elementary geometry to which it gives an immediate utilization, as well as to arithmetic; and on the other hand to science, and thus to the net-work of science, geography and civics which we have been considering. It develops the constructive, as the other the inquisitive side of the pupil's nature, and brings home to him continually the practical value of knowledge and skill. It is related to number, form and science; and, as the other additions to the curriculum are crowding into the waste places of its literary sides, so it seems probable this will crowd into the waste places of its mathematical side. How closely this is related to the elementary conceptions of number and form by adding emphasis to their objective study, is at once apparent; it develops also measurement and proportion, thus involving fractional relations and compound nnmbers; it brings the idealizing tendency of the mind to accuracy and realization; and, above all, unites the whole scheme of school training to the realities of actual life. The arithmetic may gain strength and richness by yielding something to it, and the curriculum be made not more complex but more simple through a sense of its vital unity.

III.

The subject of language training in an elementary program presents peculiar difficulties, and the comparative programs subjoined show greater divergence in reference to this than in reference to any of the other great traditional elements. The fundamental fact to be observed is that, in the nature of things, language is always a means and not an end; and while its difficulties compel long continued training they are most effectively vanquished by keeping it, so far as possible, in its instrumental relation. In this relation the processes are vital instead of formal merely, and the pupil's nature accepts gladly and appropriates the help which answers to its need. The determination of relations is here of the greatest importance. Speech comes first as the direct instrument of thought, and this is learned by use and only by use. In

accordance with the principles of combination, utilization and self-help its law would be, encourage the pupil to express his thought and help him to do so correctly. The thought is central, the speech but instrumental, as physiological psychology is effectively demonstrating to us. Our aim should be to awaken interesting and profitable thought, and then facilitate its delivery. The waste here in programs is through little, formal, meaningless word drills, which can have no vitality. We may say that the result has followed the break-up of formal grammar with us, which, with the Romans under Lucullus, followed the flight of Mithridates,—we have since occupied ourselves with gathering up the abandoned spoils. To turn from this and train first to tell and then to write correctly the thing learned or observed is to return to the simplicity of nature, and in teaching little, teach much. In place of aimless composition work,

> "The dropping buckets into empty wells
> And growing old with drawing nothing up,"

this uniting of language work with all forms of school instruction would train pupils to describe well for geography and science the things they have seen; to narrate well historical incidents; to state simply and clearly the results of investigations; to relate observations so as to establish an inference—all real and vital work, and all integraly and naturally related to the remainder of the school program. That reflective and critical study of language which we call grammar comes when reflection begins to develop, and should be carried on vigorously and connectedly. Too much time has been given to it. Common sense and experience should teach us the general truth of the observation with which Mr. Lincoln's biographers close their account of his study of it: "He seemed surprised," say they, "as others have been, at the meagre dimensions of the science he had acquired, and the ease with which it yielded all there was of it to the student."

IV.

We have thus briefly and imperfectly presented a study of elementary programs as an organic whole, each element working with all the other elements to the upbuilding of an educated human being. The chief sources of waste at present, result, we are convinced, from an imperfect grasp of this conception, and from an inadequate view of the possibilities of early education. We still divide and weaken where we should

combine and vitalize. Great advances have been made and are making towards remedying the defects. Side by side with the complaints about overcrowding, come demands for additions to our courses and charges of waste; and both deserve attention. It is easy to be unprofitably industrious; it is not impossible to add and relieve at the same time. President Eliot says that a French school boy at eighteen is ahead of an American at nineteen, because he begins serious subjects at an earlier age. He begins foreign languages and history at eight, and devotes during his course only a third as much time to arithmetic as an American boy does. For all that Frenchmen are not bad calculators. Although his case is an extreme one, and differs in details widely from what our schools demand, the record of John Stuart Mills' education is extremely instructive for us, a record which, in his opinion, shows "how much more than is commonly supposed may be taught, and well taught, in those early years which, in the common modes of what is called instruction, are little better than wasted."

J. W. Stearns.

MADISON, WIS.

THEORY AND PRACTICE.

A TOWNSHIP HIGH SCHOOL.

MR. EDITOR: Your letter of the 14th inst., kindly enquiring for facts concerning the township free high school recently started at this place, is at hand.

The school was opened on the 4th of October, 1886, and we have had two school years of about nine months each.

The vote in favor of starting the school was secured with great difficulty and by a bare majority. Even the friends of the measure seemed rather afraid of their own experiment. Some of them assured me before it began that I should not expect to have more than twenty or twenty-five pupils at the start. But during the first week we enrolled 36, the first month 45, and the average daily attendance for October was 34. Since the first month, the average daily attendance for each month has generally been more than 95 per cent. of the monthly enrollment. In the winter term, we registered 61, but in the spring it dropped to 41, some of the pupils going to their work on the farms.

The first year was shortened a little by the breaking out of diphtheria

in our village. This scourge has been here or near us ever since. And while the school has been remarkably free from its invasion, it has suffered seriously on account of it. Most of the pupils who were attending from adjoining towns, have been frightened away by it. During the first year there were eight of these, but this year, instead of having more, we had only three. Many had made their arrangements to come, when the diphtheria broke out afresh and they went elsewhere. It frightened away most of our advanced class, leaving us but one to graduate this year. Still, we have had the full 180 days of school, with a total enrollment of 59 against 69 last year. The daily averages for the year are 37 this year, and 45 last.

When we consider the distance from which many of them come, the unusual severity of the last two winters, and the sickness which has prevailed here, it seems to me that the attendance speaks well for the pluck and earnestness of the farmers' boys and girls. It has never been my fortune to know of better monthly averages. Nor do I think this is due to anything exceptional in the conditions here. Any township, with a population fairly numerous and intelligent, and a hamlet not too far from the center, would seem to have all the prime requisites.

The expenses, even to the most distant, are very light. About four-fifths of the pupils come from home daily throughout the year. Four or five of these ride or drive in, keeping their teams in the village. The rest find rooms to rent for $1.00 or $1.50 a month. These rooms are furnished and provisioned from the homes, so that the rent of the rooms is about the only extra expense the more distant ones have. Those coming from outside the town pay a tuition fee of $4.00 per term of three months.

Nor do the tax-payers seem to feel the expense of running the school. Indeed, the tax for the running expenses is only about 2 mills on the dollar, for the state pays half of the teacher's salary. The town voted by a round majority of 80, at the spring election last year, to buy the school building and to pay $1500 for it in three years. This will add nearly 1¾ mills to the 2 mills for running expenses. They have already made one payment on the building, have paid for desks, stove and other excellent furniture and apparatus. They probably need never again be taxed as heavily for the school as they have already been. The years have been dry hard years for the farmers. Yet they seem to find no fault. The school seems to be growing in popular favor.

We are working on the "Three Years Course" of study, nearly as it is given in the manual. The pupils from the district schools are not evenly prepared in all branches for high school work. They are generally deficient in language and grammar, often ahead in text book arithmetic. Consequently we have to give more than the allotted time to some branches and less to others. It will of course require some time to fit together perfectly the high school and district school systems, but surely it is none the less a desirable thing to do. Already I hear from all sides that the pupils in the district schools are working with increased earnestness to prepare for the entrance examinations, and their eagerness to try the examinations again and again if necessary, leads me to believe, that one of the best results of this system, when our farmers come to appreciate and adopt it, will be to stimulate and inspire to the best work in the district schools.

The indications are that the larger part of those who enter the school will complete the course. And we hope to impart an impetus that shall carry many of them on, until they shall use to the full the grand opportunities so liberally afforded by our state.

The first year, by means of entertainments, we raised money to purchase a fine $150 bell. In the same way, we are rapidly obtaining a good circulating and reference library and some first-rate apparatus. Are not these things better than compulsory laws?

Pardon me for running on so long. But I have enjoyed the past two years' work the more and written of it the fuller perhaps because I have known from experience the privations of our farmer boys and sympathize with them.

W. A. Hodge.

MARSHALL, WIS.

SCIENCE WITHOUT APPARATUS.

While it is by no means intended to disparage the effort that is being made to popularize elementary science by the use of very simple apparatus, it seems desirable to guard against the danger of falling into an error which is likely to defeat one of the main purposes of an education: i. e. correct reasoning. It would be a source of sincere regret to all friends of good education, if the attempt to teach experimentally the simple facts of science should result in unscientific habits, or false reasoning. It is not possible to get the most out of any effort unless

the purpose of the effort be kept steadily in view, and it will be generally conceded that the *main* ends to be sought in experimental work are two: (1) The training of the powers of observation. (2) The development of inductive reasoning.

To train the powers of observation it is necessary to observe something. In the study of experimental science the object of observation must be the materials and apparatus used to teach the fact or prove the principle in question. Apparatus *adapted* to illustrate the truths to be acquired is therefore necessary to the attainment of the first end. Unless the apparatus is ample in quantity and suitable in quality the observations will be incomplete or inaccurate, and in either case the conclusions will be unreliable.

A consideration of the nature of inductive reasoning will aid us further in determining the *character* of the apparatus to be used. This exercise involves a generalization from one or more observed facts which are regarded as typical. To illustrate: I weigh a piece of iron and immerse it in water. On the principle that two material bodies can not occupy the same space at the same time, I assume that the iron displaces an amount of water equal to its own bulk. I now weigh this amount of water, and also the iron while immersed in the water. A comparison of weights shows that the iron has lost an amount in weight equal to the weight of the water displaced. From this particular observation I may reach several conclusions, each more general than the former. I select three as illustrative: (1) Any *metal* immersed in *water* will lose an amount in weight equal to the weight of the water it displaces. (2) Any *material* immersed in *water* will lose, etc. (3) Any *material* immersed in any *fluid* will lose an amount in weight equal to the weight of the *fluid* it displaces.

The important question right here is not whether one or all of these inferences are in themselves true, but whether they may be fairly drawn from the experiment performed. To make sure of these inductions the experiment should be repeated with great care until there is no reasonable doubt that all the conditions have been observed. Like tests should next be made with other substances, lest the single instance prove to be *particular* and not *typical*. All this requires apparatus that is at least *accurate*. The essential parts (in this case the bearings and knife-edges) should be carefully and well made. It is apparent therefore that the teacher and manufacturer of apparatus as well should distinguish

between the essential and the non-essential. It is too often true that elaborate cases are filled with beautiful and costly apparatus, which serves better to give pleasant and entertaining exhibitions to pupils, and to impress visitors with the false notion that the school is thoroughly equipped, than to investigate or prove the principles of science. What is needed is not fine polish and elaborate external finish, but careful and exact construction, so that the legitimate inferences from the experiments may correspond very closely, if not exactly, with the real truth. The attempt to verify principles by experiment was so often a failure in a certain New England college that the statement of the professor, "Well, gentlemen, the experiment fails, but the principle holds good," became proverbial.

Now if the facts of science are to be taken on faith it would better be done directly from books, or other good authority, thereby saving time and expense; but if the student is to be trained to "prove all things," then crude guessing from still cruder experimentation is entirely out of place. The final value of the study of inductive science will depend upon the rigidity with which the pupil is held to logical inferences from the facts *he* observes; hence that his conclusions may be in harmony with established truth the appliances used must represent true conditions. A complete knowledge of facts, and a clear perception of their relations, constitutes a liberal education. To observe carefully is to acquire the facts, to reason rightly is to apprehend their relations; but these conditions can not be realized in natural science work unless the apparatus is *sufficient* and *accurate*. True economy here as elsewhere will consist not in expending the least money, but in securing the *best* for the money that can be afforded. It is in the main true that the more a thing costs the more it is worth, and this truth is applicable to education no less than to business. If we would get the most out of science study we must make the means of pursuing it the most efficient possible. This will require a reasonable liberality on the part of those charged with equipping our schools with needed appliances, and a wise discretion on the part of those entrusted with the selection of the same.

Without doubt the greatest hindrance to the profitable study of experimental science in times past has been the lack of funds necessary to provide the materials. Other studies have found greater favor not altogether on account of their greater value, but because they were cheaper. It is the dollar that influences *mightily* in educational matters

as well as elsewhere. Only convince the public that the returns will warrant the outlay and appropriations will be made forthwith. Given a good teacher, and within certain limits, the returns from a course in science will be in proportion to the outlay for material supplies, and the sooner this opinion becomes a general conviction the better for the progress of science in the schools. A *good* workman can put a *good* tool in *good* order, and keep it so, but no workman can put a *poor* one in good order, let alone keeping it so. Poor workmen and poor tools are usual accompaniments of each other. The quality and adaptability of the tool have much to do with determining the character of the product, and a want of these is apt to increase carelessness in the workman. To avoid indifferent or even harmful results it is absolutely essential that adequate supplies be furnished.

Now it is not meant that teachers should wait idly for a complete outfit before undertaking to do anything, but it *is* meant that they should not undertake more than their resources will warrant. The wise and earnest teacher will spare no pains to secure and improvise the most simple and inexpensive apparatus within his reach, but he will also be very sure that it reveals the fact or proves the principle he would teach. But no honest person will go through the *form* of a demonstration, then draw his conclusions from the book, give them to the pupil and pretend that he is *teaching his pupil to reason!* There is a logic of experimentation as rigid, and it should be as inviolate, as the logic of mathematics, and just so far as results in science are at variance with strict logical sequence they fail of real training.

Alexander Bevan.

MILWAUKEE, Sept. 10, 1888.

KEEPING PUPILS BACK.

In almost all the numerous collections of school statistics which are now published in this country, it appears that the various grades contain children much too old for them, who have, apparently, been held back. This phenomenon seems to be due partly to the ambition of teachers, and partly to the caution of parents. To illustrate with a specific case: In the Boston primary schools, which are intended for children of five to seven years inclusive, forty-four per cent. of the children, for three years past, were over seven; and in the grammar

schools of the same city, which are intended for children of from eight to thirteen years inclusive, from twenty to twenty-four per cent. were over thirteen. It has already been mentioned that the average age of admission to the Latin school is not eleven years, as indicated in the program, but thirteen years. It is really thirteen years and three months. For three years past, from one third to one half of the graduating classes of the Boston grammar schools have been more than six years in the schools, the program calling for but six years. In the Boston primary and grammar schools, the tendency is in the wrong direction; that is, in 1887 there was a larger proportion of pupils over age than in 1877. The ambition of teachers tends to keep children too long in the several grades, because they desire to have their pupils appear well at the periodical examinations, and also because they like to keep in their classes the bright children as aids to the dull ones. The caution of parents tends to produce the same difficulty, because they fear over-pressure; not comprehending that with children, as with adults, it is not the work so much as worry that injures, or finding that the existing system adds worry to work. The exaggerated notion, already referred to, that it is necessary for a child to master one thing before he goes to another, is also responsible for the retardation of children on their way through the regular course. The result of this retardation is that the boy comes too late to the high school or to the Latin school, and so fails to complete that higher course if he is going into business, or comes too late to college if his education is to be more prolonged. The great body of children ought to pass regularly from one grade to another, without delay, at the ages set down on the program; and any method of examination which interferes with this regular progress does more harm than good. Of late years, many experiments have been made on semi-annual promotions and other means of hurrying forward the brighter children. The aim of these experiments is laudable; but the statistics suggest a doubt whether semi-annual promotions really promote, and whether they do not disturb, to an inexpedient degree, the orderly progress of school work. In general, the work of any school must be laid out by years, and on this account irregular promotions will hardly provide a remedy against the common evils of retardation.—*Pres. Eliot, in Atlantic Monthly.*

EDITORIAL.

A FULLER recognition of the claims of individual pupils upon the care and skill of the master must beyond question result from the scientific study of teaching. The class is not the unit of instruction, but the individual pupil is. He must be reached, stimulated, helped to develop his capabilities in his own way; his special needs must be studied and met; his character must be understood and properly shaped; his tastes must be consulted and fostered. The mischief of the exclusive devotion to class-teaching in this country is that it crowds out of sight this necessity for individualization. Our study of methods is too largely devoted to the teaching and management of groups of children; but no group is well taught and well managed in which each pupil is not studied and taught individually. Unless this is done class-work tends to produce machine-like uniformity instead of the diversity of nature; we level down to mediocrity and repress originality. This tendency to exaggerate the value of class teaching has led us, among other things, to make our groups too large, so large that attention to particular pupils is impossible. How can a teacher help, direct and study each one of his pupils when he has forty, fifty or seventy in a class? Such classes are the result of our mechanical views of education, and inevitably produce mechanical education. Mr. Edward Thring, we are told in the sketch of Eppingham school, England, in the last *Century* Magazine, fixed the maximum size of a class at about twenty, and founded his decision upon the principle that "every boy, stupid and clever alike, should have a fair chance and should be really trained,"—a principle manifestly just. With such a class a teacher has a chance to know his pupils and to continually adapt his work to the needs of each one. The principle cannot be violated for a long time without giving rise to serious defects in school work.

WHAT of the Fall Institutes? They were well attended and on the whole of more than usual interest. The plan of limiting them to one week seems to work well in almost all cases. These advantages at least are apparent: it enables a larger number of them to be in charge of the regular conductors; it brings a larger number at the season of the year most convenient for them; it secures more prompt and continuous attendance. A number of institutes are reported to us at which all but two or three of the teachers were present from the first day to the close. This is as it should be if any continuous and connected work is to be done. The chief difficulties which remain arise out of the incongruous elements which must be instructed together. To get out all the teachers the institute should be made profitable to all, but it is difficult to meet the wants of the large body of beginners and also properly help those who have been teaching for several years. The solution for this must be found, we are satisfied, in sectioning the institute. Elsewhere will be found the plan of sectioning which was followed in one case, with results highly satisfactory to the conductors and to the teachers. This suggests the advantage which may arise from the con-

tinued service of the same conductor from year to year in the same county. He comes to know its needs accurately, and can give some sort of continuity and progress to the work. This is our greatest need — progress, advancement in our institutes as well as in our schools, and this will come out of a closer adaptation of their work to the needs of those in attendance. This will also help us to escape from another difficulty. When we urge that some routine work, as for example drill in spelling, should give place to more vitalizing exercises, we are met by the affirmation that if this is dropped from the institute schedules it will at once lose importance in the schools. This result has followed, we are told, in the case of penmanship. If this is true it shows how false is the prevalent view of the character of an institute — a view which seems to make of it a great model district school; whereas it is, or ought to be, a great teachers' school, instructing, quickening and guiding them in their work. By grading the institute this relation will become more apparent and an uplift will be created leading to a desire after higher attainments. It is necessary to drill children in spelling and penmanship, but it ought not to be necessary year after year to put those who have passed the teachers' examinations through mechanical drills in these subjects. They ought to be able to lay aside childish things — and we are satisfied that some of them at least are able. There ought to be introduced into the institute systematic and well considered work in drawing, with instructions how to conduct exercises in the schools; well considered work in elementary science, such at least as would prepare teachers to present properly the third part of Hooker's Child's Book of Nature; and United States History, considered as a subject for second form pupils.

TIPPLING teachers are now very rare. Few communities can be found which will tolerate in the school room, as the instructor and model of children, one who is an habitual user of intoxicants. With the county superintendent the case is different. On the one hand he is farther removed from the children and the homes, and on the other he is more directly involved in party politics than the teacher. Hence it happens that the tippling superintendent is by no means so uncommon as he ought to be. Now and again you may find him bringing the odors of the saloon into the teachers' institute, or diffusing them over a teachers' examination. He is the superior officer in these places, and the educated young women who are seeking positions in the schools must skillfully hide their disgust in his presence, and contrive to treat with deference one who holds the power of refusing them a certificate. Think of such a situation, ye who lend yourselves to the elevation of such a man! He visits the school room in the capacity of superior officer, and the quick-witted children, hushed into silence by a sense of his official position, read in his face and eyes the evidences of his habits, it may be even see them in his gait and detect them in his speech. What shall we say of the moral effect of such an object lesson? The teacher of the school is in most cases a young woman; the boys look for their ideal beyond her to the superintendent, the head of the school system of the county;

when they see such a man what inferences will they draw? But it is needless to dwell upon the evils of the case, since all can recognize them. It is more to the point to insist that the occasional elevation of such men to the superintendency is due to the apathy of the people and the scheming of politicians. It happens now and again that the saloon nominates the superintendent, and once nominated he is carried into office by the tide of party prejudice and party enthusiasm. Is there any good reason why the office of county superintendent should be involved in party politics, except the difficulty of effecting its separation? Until that is done is it not the duty of every intelligent citizen to cast off party ties sufficiently to work and vote to prevent the election of a tippling superintendent?

SCHOOL boards need protection against the wiles and eloquence of agents for school supplies. Travel in almost any county of Wisconsin and if you are interested in such matters you may gather numerous tales about the waste of school funds in purchasing apparatus that is either useless or of small value compared with the price paid for it. Anatomical charts, geographical or astronomical charts, fancy, complicated globes, and orreries; other articles whose chief recommendation is that they cost a large sum of money, are purchased by boards under the manipulation of wily agents, while the school is unfurnished with some of the first requisites for successful teaching. The reason for this is not far to seek. The boards do not know what a school needs; moreover, they generally do not know what their own school has; they fall a prey to a ready talker and manipulator, who displays advantageously the showy article he has in hand, and makes them believe that that for which they pay two or three prices is marvelously cheap. Apparatus should not to be purchased without the advice of the principal or superintendent of schools, who ought to know something about its usefulness, the need of it and what is a reasonable sum to invest in it. School teachers and superintendents ought to keep themselves advised both as to what apparatus is most useful in the school, and the price at which reasonably good articles can be secured, and should see to it that their boards are regularly informed as to what apparatus the school has, what it most needs, and what the articles needed ought to cost. Considering the pressing needs of our schools for encyclopædias, libraries, apparatus of all sorts, it is disheartening to see the meager funds at disposal wasted for useless articles under the coaxing of agents who pocket a heavy per cent. of the price paid.

OUR DRAWER.

MILWAUKEE LETTER.

German in the Schools—Eighth Grades—Extending powers of the Superintendent—The Normal School.

About two thirds of the pupils in the public schools of Milwaukee study the

German language, and of these, about five sixths are of German parentage. Prof. B. A. Abrams was recently appointed Director of German at a salary of two thousand dollars a year.

Only fourteen of the District Schools, according to a recent report, maintain classes of eighth grade pupils, and in six of these, the number of pupils is less than twenty. Steps have recently been taken by the school board looking toward a reduction of the number of teachers in this grade by the consolidation of classes. The movement is urged upon grounds of economy and of justice; the work, it is claimed, being at present unequally distributed among teachers of different grades. The recent increase of salary of eighth grade teachers to $900 a year is also cited by the committee in justification of the plan of increasing the size and diminishing the number of classes.

Larger liberty of action in certain matters of detail in the management of schools and buildings has been conferred by the board upon the superintendent; he is now authorized, with the concurrence of one commissioner, temporarily to close a school or a school room in any emergency which in his discretion may warrant such action; he may also in like manner grant the use of buildings to teachers in the employ of the board for private schools during vacation. If a broad and generous construction is placed upon the first of these regulations, the application of it will prove a boon to both teachers and pupils; an occasional half holiday is not detrimental to the progress of a class, while to the teacher it is often a necessity. The officers of the board and their clerks are also hereafter to be granted certain time off, to be arranged by the Superintendent.

At a recent meeting of the board, Commissioner Dœrfler introduced a resolution, which was referred to the committee on rules, to the effect that graduates of the State Normal Schools shall receive fifty dollars a year more for the first year's service than is paid to others who are employed without having had experience in teaching.

The National German American Academy begins the year under a new principal, Prof. Emil Dapprich, of Belleville, Illinois, having been placed at the head of that institution by its board of trustees.

The State Normal School is reported to have a material increase in attendance, a large number of students coming from outside the city, and a larger class than usual having entered from the high school. The employment of an additional teacher after the term had begun became a pressing necessity.

I. CRANE.

COMMENCEMENT PIECES.

Referring to an editorial under this caption in the July number of the JOURNAL, a teacher writes us: "It had always been a determination of mine never to put my own thinking into the exercises of my pupils on such occasions, but I discovered last spring that it would be easier to conceal my guilt than my mortifi-

cation, and so violated my rule and my conscience. The hearty congratulations we received were not specially gratifying." The fact that the case is not unusual and the situation a trying one, makes the the discussion of this matter of more than usual importance. Indeed it seems to us desirable that some elements of a code of professional morals should be worked out and adopted by teachers, and this is one of the topics which ought to be covered in the code. Competition for positions is another topic for such a code. In regard to the subject in hand, it is a delicate matter to determine how much assistance ought to be given a pupil in preparation for a public performance. The production ought of course to be essentially his own, as it is offered as such to the public. Further, it is a sample or proof of the kind of literary training he has received in the school, and to falsify regarding it is to abase both the pupil and the school. The truth is that children are put on the stage on such occasions who have *not* received the training implied in their performance, and this is the evil to be corrected first. Then further, it is true that the thought of presenting a piece to the public intensifies the teacher's appreciation of its defects; he sees faults to be serious which he would pass over in ordinary exercises. The pupil, too, is often embarrassed by the occasion, and therefore unable to do himself justice. Some assistance must be given, but how much and what kind is justifiable? Ought all pupils in a class to be put on the stage? We hope some teachers of experience will be disposed to discuss this subject more fully in the JOURNAL.

ADMISSIONS TO THE STATE UNIVERSITY.

ADMITTED FROM ACCREDITED SCHOOLS.

Milwaukee High School	14	Spring Green High School	2
Madison High School	13	Keenwood Institute	2
Albion Academy	5	Beloit High School	1
La Crosse High School	4	Evansville High School	1
Berlin High School	4	Lake Geneva High School	1
Monroe High School	4	Viroqua High School	1
Fond du Lac High School	3	Watertown High School	1
Sparta High School	3	Baraboo High School	1
Darlington High School	3	Whitewater High School	1
Brodhead High School	3	Grand Rapids High School	1
Dodgeville High School	3	Janesville High School	1
Portage High School	3	Mineral Point High School	1
Wauwatosa High School	3	Poynette High School	1
Rochester Seminary	3	Reedsburg High School	1
Appleton High School	2	Waterloo High School	1
Beaver Dam High School	2	Boscobel High School	1
Neenah High School	2	Oregon High School	1
Stevens Point High School	2	Richland Center High School	1
Eau Claire High Schools	2	Stoughton High School	1
Wausau High School	2		
Sharon High School	2		103

ADMITTED FROM OTHER COLLEGES.

Ripon College	2	Carthage College (Ill.)	1
Beloit College	1	Milwaukee Female College	1
Beloit Academy	1		
Lawrence University	1		7

ADMITTED FROM NORMAL SCHOOLS.

Platteville,	5		
Whitewater	1	Oshkosh	1
Milwaukee (city)	1		–
Winona, Minn	1		9

Admitted on special endorsement and partial examination, embracing high schools outside of the state, 19; admitted upon examination, 33; enrolled, but not entered, 24; percentage of failures on examination, 35 per cent.; admitted to the Pharmacy course, 30; admitted to Law Department, 53; total enrollment of new students 278.

A GRADED INSTITUTE.

The following details of the grading of the Teachers' Institute in Trempealeau County will be of interest to many. The basis of classification was as follows:

Section A included 1. State Normal School Graduates and holders of state certificates. 2. Holders of first grade county certificates. 3. Those who have attended three institutes in the county in the past two years, who have taught not less than two years, and who have second grade certificates. 4. A few who for special reasons are assigned to this grade on the judgment of the county superintendent.

Section B included all the rest. About one third of those in attendance were thus assigned to section A. The division of the institute was easily and quickly accomplished, and the following program of work at once put into operation.

DAILY PROGRAM OF THE TREMPEALEAU COUNTY TEACHERS' INSTITUTE, HELD HELD AT WHITEHALL.

Time.	*GILLAN.*	*SALT.*	*ACKERMAN.*	*KEITH.*
9	OPENING EXERCISES.			
9:15	Reading.			
10	Arithmetic, A.	Arithmetic, B.		
10:50	RECESS.			
11		Spelling, B.		
11:25			Physiology, B.	
12	INTERMISSION.			
1:30	Language, A.			Geography, B
2:20	Language, B.	Constitution, A.		
3	RECESS.			
3:10	Theory and Art.			
3:50	Question Box.			

EVENING SESSIONS.

7:30 Elementary Physics.

8:15 Mathematical Geography.

N. B.—The evening sessions are for Section A only; the study period for this section is the last hour in the forenoon. Visitors are welcome at all times.

IN THE SCHOOL ROOM.

SOME TEACHING DEVICES.

IN MENTAL ARITHMETIC.—A plan for mental arithmetic drill is to have desks cleared of everything except pen, ink and one paper. The teacher announces the problem *once*, the pupils arrive at the result mentally, write down *only* the number of the question and the answer. Let two, five or ten questions be given, according to time or character of the problems; let them be like what they have been working but not exactly the same. After this exercise it remains for the teacher to collect, correct and report what per cent. of the questions each one answers correctly.

IN PRIMARY NUMBER WORK.—Another exercise for small children is the use of a *wheel* drawn upon the board, with the multiplier at the hub and the multiplicands placed between the spokes. The hub may be changed as often as desirable. This wheel may also be used in addition and subtraction.

IN PRIMARY READING.—The following plan can be used quite frequently, and, with slight variations, seldom fails to hold the attention of all: Place a basket on a chair or table, and in front of it the objects, the written names of which the class have learned and need to review. Write on board such sentences as "Put the top in the basket," "Put the bell in the basket," etc. The child designated reads the sentence and drops in the toy. So continue until all the playthings are transferred to the basket. If this lesson occurs in the morning, the basket containing the toys may be left in its place, and the afternoon exercises be something like this: The teacher writes on the board "Get the top," "Put the book on the table," "Put the doll on the chair," "Give the apple to Emma," etc., requiring each child to hold up the proper toy and give an appropriate sentence concerning it before doing what "the chalk said." The pupils, if encouraged, will bring their playthings to form a collection, which will be the more serviceable because no object will be presented or words used in which they have no interest.—*Flora Spellman.*

IN UNITED STATES HISTORY.—There is no better opportunity ever offered for arousing patriotism, and whatever is best and noblest in a child, than in the years preceding and during the revolutionary war. The plainest prose account moves one, and the patriotic speeches of Patrick Henry and James Otis send a thrill even to the finger tips. In addition to the prose accounts offered, we shall, by verifying the illusions, use as great aids in our history, Holmes' "Boston Tea Party," "Lexington," "Grandmother's Story of Bunker Hill," Longfellow's "Paul Revere's Ride," Lowell's three memorial poems, "Under the Washington Elm," "Ode for July 4, 1876," and at the "Hundredth Anniversary of Concord Bridge." Who can tell how much our young people will be helped by these history lessons? helped not merely in history and literature, but in character. During the study of the revolution, ideas of the English views of the subject may be obtained by reading parts from the lives of Wm. Pitt, Ed-

mund Burke, and Charles James Fox. A little also should be read from the memoirs of Madame Rediesal.—*Ills. School Journal.*

IN GEOGRAPHY.—We were needing something to quicken the interest of our pupils in their study of geography. Having noticed the pleasure and culture my own children gained from the dissected maps at home, I begun thinking their use might be the cordial needed at school. I thought the educational value of their use would appear in culture of the judgment, development of the memory, the healthfnl exercise of the imagination, the critical use of the eyes and careful use of the hands; and that the children would learn by their use the name, location, form and comparitive size of the different states. A dozen maps were purchased at a cost of 50 cents each. Our teachers have been using them, and report that they have realized even more gratifying results than I had anticipated. The pupils think their use a treat and have learned easily some points in map lore that will be of life-long use to them.—*Ex.*

A BUNCH OF EXERCISES.

IN LANGUAGE.—1. Combine the following statements into a single complex sentence: A clear river ran at the foot of the hill. The river was deep-banked. It was bounded on one side by a slip of rich, level meadow. On the other side it was bounded by a kind of common. The common was for the village geese. The white feathers of the geese lay scattered over its level surface. They were scattered there in the summer season.

2. Change the order of the clauses in the following in at least three ways: His ear, though he did not seem to listen, caught every word of the talk. However, before their astonished eyes, a little flower rose from the water's edge, just where their friend had died. When, at last, the white ship left the harbor, there was not a sober seaman on board. Last night, as I lay fettered in my dungeon, I heard a strange ominous sound. The king, after listening to the report, appeared greatly agitated.

3. Expand the following simple sentences into compound or complex: His resignation will necessitate another election. He was released on giving bounds for the payment of the amount. Unfortunately we had not time to examine them. Sending for the messenger he questioned him closely. In spite of numerous warnings he persisted in making another attempt. He is generally understood to be the owner of it.

4. Distinquish the meanings of: He likes you better than me and He likes you better than I. The horse and buggy is at the door and The horse and buggy are at the door. He was going home, He went home, and He had gone home.

5. Contract the following into simple sentences: He was there when the train arrived. If your friends come they will be welcome. The two men who served as messengers are waiting in the hall. When spring comes the flowers will bloom again. As the storm increased they abandoned the vessel. I hope that I may go soon. There is a time when one may dance.

6. Copy and write the plural of the following: Wharf, index, penny, genius, India, mouse-trap, wagon-load, brother-in-law, postmaster-general, major-general, horseman, talisman, piana-forte, Caroline, stamen, axis, crisis, datum, oasis, vertebra, nebula, proboscis.

7. Copy and correct the following: The mountains brow. The soldiers quarters. The mens boots. The fire destroyed both Brown and Morley's stores. Keats and Burnes' poems.

HISTORICAL CONUNDRUMS:—

1. Sprung from a cabin our chosen guide.
   Shot by a man, in a barn, that died.
2. The king of the world at thirty-two,
   Died since he could not himself subdue.
3. A blind old man of mighty song,
   Who did his three daughters a pitiful wrong.
4. He hid in the cellar a powerful thing
   That would ruin his rulers and ruin his king.
5. The most glorious modern murderer, he,
   Died on an isle in a lonely sea.
6. A twinkle, a tear-drop, a broad, hearty grin,
   That wrote of a cricket, a raven, an inn.
7. Gold, armor and retinue all could not save,
   His mighty discovery was changed to a grave.
8. Oh, fickle their fortune to ruler that cling,
   He died for the failure to give up a ring.

CAN YOU TELL?—What was invented by Elias Whitney? S. F. B. Morse? Thomas A. Edison? Alexander Bell? James Watt?

OUR BOOK TABLE.

A NEW PHYSICAL GEOGRAPHY.

ECLECTIC PHYSICAL GEOGRAPHY, by Russell Hinman. Van Antwerp, Bragg & Co., 382 pp., $1.00.

Physical geography is no longer a simple description of the surface of the earth, enlivened by accounts of unexplained natural marvels. It has also passed the stage when it was made up of scrappy bits from the various natural sciences. It has become a science, searching into the causes of things, and reading the earth's history in its forms and structure. As an illustration of its great development contrast the long chapter in this volume which treats of the land with chapters in the older books on the same subject. We have here a succinct but intelligible and interesting account of the surface and structure of the land, followed by a study of the agencies which are continually working to modify its surface—the storms, the running waters above ground and below, the frosts, the glaciers, and the great upheaving forces which have lifted continents and

mountains. Nowhere have we found in an elementary text-book so full and satisfactory a statement of the wonderfully varied ways in which streams work to carve, tear down, transport and build up land forms. This wonderfully fruitful subject has been worked out of late years and transforms surface geography by making it a science. Of course the text only touches the subject in outline, leaving out the details and illustrations which give it a peculiar charm; but it is much to have the outlines of the subject clearly set forth—equally gratifying is its treatment of life on the globe—no dry summary of general classifications but a plain statement of the relations of living forms to each other and the world in which they live, whose varying conditions tend to produce variations in their forms and habits. The opening chapter, "Some general laws of nature," prepares the way for the rest of the treatise by a brief presentation of the most important principles of physics, especially those relating to the forms of energy as at present understood. The method of presentation is purely didactic and subjective, which throws on the teacher who would not have his class drop into purely memoriter recitation the task of studying out objective methods of illustrating the subject and testing the acquirements of his pupils. The method adopted conduces to brevity which has been carefully studied everywhere. The form of the book, a duodecimo, is unusual in this subject, but adds greatly to convenience in handling. It is provided with numerous ingenious and excellent maps, and abundant valuable and finely executed engravings.

A MODEL TEXT-BOOK.

A HISTORY OF THE UNITED STATES AND ITS PEOPLE, by Edward Eggleston. D. Appleton & Co., 398 pp., $1.05.

Mr. Eggleston has the gift of story telling, and he has used it well in the construction of this narrative. It is clear, interesting and attractive from beginning to end. He treats of topics, and thereby becomes a historian rather than a chronicler. This not only makes the narrative more interesting but it brings out the relation of cause and effect and makes apparent the progress of events. He has also made the book for young children and it is such a book as any intelligent boy eight or nine years of age would pore over with delight. To this result the admirable equipment of the book would contribute not a little. It is, take it all in all, the most perfect child's book we have seen in a long time, perfect in manner and matter, in plan and equipment. Its ample page has wide margins, which are utilized not only for marginal titles for the paragraphs but for a large number of excellent small engravings which serve to make the adjoining text luminous. There are also a great many other and larger illustrations, admirable as engravings and still more so for their instructiveness. Several colored plates set forth strikingly the brilliant costumes worn at different epochs of the history. There are numerous maps also, colored maps on the covers and fly-leaves, sketch maps in the margins and in the text—wherever they will help the reader to understand better what he is reading about. Little paragraphs set in the text and separated from it by a margin, sketch a biography,

give an illustrative incident, or elucidate some topic mentioned. Each chapter is followed by questions on its matter, a topical outline, geographical hints, suggestions for black-board outlines, and references to sources of further information. All these things make up such a text-book of United States History as insures not only interest but accurate knowledge even when used by young pupils and by teachers of little experience. Why not use such a book as a reading book? Still better, why not put it in place of some of the sterile geography teaching which now dries out the life of the schools?

—Volume XI. of the COLLECTIONS OF THE WISCONSIN HISTORICAL SOCIETY, is the first issued under the direction of Secretary Thwaites, and is of more than usual interest. Among its contents are important Western State Papers containing the principal documents issued by the English, French and Americans during the 17th and 18th centuries; Radisson and Groseilliers in Wisconsin, original naratives; Papers from the Canadian Archives, relating chiefly to operations in Wisconsin during the Revolutionary War—a noteworthy acquisition; Capture of Fort McKay, Prairie du Chien, in 1814, with illustrative documents; Dickson and Grignon Papers; American Fur Companies Invoices, etc. The editor contributes a very interesting history of the boundaries of Wisconsin from 1784 to 1838, and David Spencer, an account of Local Government in Wisconsin.

—AMERICAN CONSTITUTIONS, by A. O. Wright,(Midland Publishing Co., Madson; 188 pp.) is a suggestive and stimulating contribution to the study of our institutions. It consists of five parts: The Origin of the Constitution of the United States; The Written Constitution; The Unwritten Constitution; The State Constitutions; and the Territorial Constitutions. The author regards Washington as essentially an author of the constitution—a view in which all will not be ready to acquiesce, but for which he presents some good reasons. His study of the unwritten constitution, that is the political habits and ideas of the people, the English common law. and the precedents and usages which have grown up in our history, is if not strictly new at least a new and suggestive arrangement of material. The State and Territorial Constitutions are compared and studied as further illustrations of the growth and tendencies of this nation. For those who are to teach the constitution this is a most inspiring and helpful book.

—ELEMENTS OF COMPOSITION AND RHETORIC, by Virginia Waddy (Everett Waddy, Richmond, Va., 399 pp.) devotes the first one hundred pages to what is essentially grammatical work, presented synthetically. The value of this no teacher will question; he will only ask why our grammars are constructed, and our teaching of them conducted so wholly on the analytic plan that this sort of an introduction is necessary. The synthetic exercise is clearly the one which enables the pupil to turn what he learns to practical account, and this book contains a large and excellent selection of such. In the rhetoric proper the same practical plan is followed. There are admirable exercises in composition, re-

productions, paraphrases, developments, drill exercises of various sorts, ingenious, abundant and practical; and the material for them is good literature, such as will form correct tastes and proper ideals.

—NUMBERS SYMBOLIZED, AN ELEMENTARY ALGEBRA, by D. M. Sensenig, (D. Appleton & Co., 315 pp.) aims to be elementary, avoiding broad generalizations and discussion of general problems. The inductive plan is followed in the beginning, but the author purposely passes, in the progress of his work, to pure mathematical demonstration. Great stress is laid upon factoring, equations are early introduced, and throughout a large number of problems, not long or difficult, is furnished to give the young student practice in the art he is learning.

—HIS BROKEN SWORD, by Winnie Louise Taylor, (Chicago, A. C. McClurg & Co., 354 pp.) was written with a purpose by one who in philanthropic work has had long acquaintances with prison life. A young man of almost ideal character except that he has a hasty temper becomes, in a moment of great trial, the slayer of another and passes to a felon's cell at Waupun. About him and his prison life not a few sketches are clustered, drawn effectively but with perhaps a touch of sentimentalism, showing the miscarriages of justice in its administration by human hands. The good in the midst of evil even in criminals, the burden of a debased nature dragging men down who are further crushed by the harsh treatment of their fellows—all this and more as an effective plea for a more kindly, considerate, helpful and wise treatment of those who are classed as criminals. The story is necessarily a sad one, but lightened by many bright passages. It is told simply and directly, with much sympathy but some lack of constructive power. The interest is well sustained and the reader is left puzzled over the contradictions of such a life and more charitably disposed towards those who have fallen under the condemnation of the law.

MAGAZINES AND PAMPHLETS.

—*Education* for September contains a very suggestive article on "Child Speech and the Laws of Mispronunciation," maintaining that the errors of children are subject to discoverable laws. "The Economy of Memory in the Study of Arithmetic," "College Expenses," "The Teaching of Latin," and "Joshua Bates and his Time," are interesting papers. — *The Academy* has a valuable article by Prof. Briggs of Harvard University, discussing "The Howard Admission Examination in English," showing clearly the wretched training in their mother tongue given to most applicants for admission, and attributing some part of the errors to "translation English" tolerated in classical recitation. "Notes on Technical Education" is also an admirable paper, —indeed the whole number is valuable. — In the *Popular Science Monthly* "Hypnotism: what it is and what it is not," will attract those interested in philosophy. In social questions "The Relation of the Taxes to Government," "Ethics and Economics," and "Man in Relation to the Lower Animals," are valuable, the latter a plea for the moral nature and intelligence of brutes. "Bird Courts of Justice" is a further

striking illustration of animal intelligence. — In *Harper's* the most striking article perhaps is "Limoges" — an admirable sketch beautifully illustrated. Mr. Warner writes of St. Louis this month and Mr. Hearn of "La Vallette and the Carnival in St. Pierre." Other excellent papers will reward the reader. — Gen. Sheridan's recent death will add a sorrowful interest to his paper in *Scribner's* "Reminincences of the Franco-German War." "Problems in American Politics," by Hugh McCulloch is of unusual interest, and "The railroad in its Business Relations" fully equals its predecessors in this remarkable series. Mr. Stevenson's new novel, "The Master of Ballantyre," will begin in November. — The Educational number of *The Century* (September) is an event in its way betokening the growing interest in Educational topics. Its features are a sketch of "Appingham School," "The Industrial Idea in Education," "Edward Rowland Sill," "The University and the Bible," and "College Fraternities," with some admirable editorial discussions. —The *Atlantic* has secured an unusually fresh and delightful story in Passa Rosa by A. S. Hardy, the second part of which appears in the October number. The Tutor of a great Prince gives some account of the lately discovered letter of Fronts, tutor of Marcus Aurelius. Iceland in Summer and Winter is a pleasing sketch, and Garibaldi's Early Years, and The Pioneers of Ohio furnish interesting historical reading.

—Ginn & Co. announce a *Hand-book of Arithmetic*, by G. C. Shults, now professor of mathematics at the Whitewater Normal School. It has no problems but is rather a teacher's guide and manual of methods. —They also will soon issue *Thanotopsis* and other poems by Bryant, prepared to accompany Lockwood's Lessons in English. —They have become the American publishers of the *Classical Review*, London, contributed to by the most eminent classical scholars of Great Britain.

NEWS AND NOTES.

—The attendance at the Milwaukee Normal School this fall is much larger than was expected, reaching sixty-six, of whom quite a number come from without the city. It was supposed that the enrollmant in the Normal department might reach fifty. The result is very gratifying.

—The enrollment at the Whitewater Normal is also very large, reaching about one hundred and ninety in the Normal room.

—In our next issue we hope to publish Secretary Thwaite's paper on The Study of Local History, which awakened so much interest at the Eau Claire meeting. Mr. Thwaites has promised us a brief bibliography to accompany the article, the preparation of which has been delayed by his illness.

—The sketch of a township high school which we publish elsewhere, will, we hope, be suggestive of the advantages of this kind of school organization, for which the legislature has made a liberal provision. By chapter 352 of the laws of 1885, such schools are entitled to receive from the state one half the sum actually expended for instruction in them, and twenty-five

thousand dollars is the limit placed to expenditure for this purpose. The law has been in force three years and but four schools of this kind are yet organized in the state. We hope to be able to secure statements of their conditions and work from some of the others soon.

—Agents offering books for sale at the Teachers' Institutes quite frequently miss one or more copies in an unaccountable manner. It is of course possible that these books might be carried away innocently by some member of an institute, but it is hardly possible that the error should not soon be discovered by the person holding the book, and in that case of course restitution ought to be made at once. It is not in the interest of agents that we refer to this unpleasant matter, but in the interest of teachers.

—Mr. P. J. Noer becomes principal of public schools at Cumberland; A. C. Piper at Albany; W. D. Gibson goes to Appleton to teach; Mr. Luzadder becomes principal at Trempealeau; Mr. F. F. Wood at Blair; Mr. Sullivan, a graduate of River Falls Normal School, at Independence; Mary Brandenburg, from the Oshkosh Normal, at Osseo; Reta Smith, from Illinois, at Alma Center; W. A. Cundy at Spring Green, and Wm. Farris at Montfort; both from the Platteville Normal School; Robert Willis takes charge of the schools at Mount Hope.

—Elsewhere we publish some details regarding the sectioning of the Teachers' Institute at Whitehall, reports from which indicate that the results were very satisfactory both to the conductors and the teachers. We learn that the institute at West Bend was also sectioned, the basis of division being essentially the same. Those who held Normal diplomas, or first or second grade county certificates, and had had two or three years' experience in teaching, were placeed in the advanced section. Here, too, the results of the sectioning seem to have been very satisfactory.

—Of the institute at Alma Supt. Schmidt writes: "The institute was a success, not only with reference to the number enrolled, which was sixty-eight, but also with reference to the work done during the session. The daily attendance was fifty; average age twenty-one years, and average experience twenty-one months. Lectures were delivered by Ex-Supt. L. Kessinger and Geo. Harper. Professors Clark and Kinney did excellent work as conductors. Indeed the work done was pre-eminently adapted to the needs of our teachers, and will doubtless result in much benefit to our schools."

—We are indebted to Supt. Smith for the following note regarding the institute at Waukesha: "One of the most enthusiastic and successful Institutes ever held in Waukesha County came to a close Aug. 25th. The teachers came prepared to stay all week, and they worked with an energy and will that showed they were in earnest. Profs. Gillan and Livingston put in a week of good practical work, that was thoroughly appreciated by the teachers. We heard such expressions as these. 'It is the best Institute I ever attended;' 'Why, I would not have missed this week's work for anything,' etc., etc. The enrollment reached 131. A literary social was held at the school house on Tuesday evening, where the teachers listened to and enjoyed several speeches and recitations which were interspered with songs and instrumental music; Thursday afternoon and Friday morning we had assistant Supt. W. H. Chandler with us. Thursday evening Dr. J. W. Stearns gave his lecture on "School and Life" to a large and appreciative audience at the M. E. church. Prof. P. M. Bach of Milwaukee was present and

took charge of the opening exercises during the week, and added much to the pleasure of the week's work."

—The deaf-mute school established at La Crosse in accordance with the law lately passed for such departments, opened this year with an enrollment of six.

—We are indebted to Principal R. B. Dudgeon for a neatly printed pamphlet containing the course of study of the Menomonie Public Schools. In it we are pleased to see that provision is made in all the lower grades for the instruction of pupils in the elements of natural science.

—The school report of Fond du Lac, Wis., I. N. Mitchell superintendent, indicates that since 1881–2 there has been a steady increase in the enrollment. Supt. Mitchell urges more ample provision for supplementary reading in the schools by providing a small library for the use of the pupils in the primary and intermediate grades; an increase in the salaries of primary and intermediate teachers; the election of approved teachers for a longer term than one year; the building up of natural history cabinets; and provision for industrial education. There accompanies the report a pamphlet published by the Board of Education, containing the twenty essays of the graduating class of last year. The subjects of these essays are real and interesting, and the papers themselves of unusual excellence.

—*Our Young Folks' Monthly* is the new organ of that new organization to which reference was made in these columns last month—Our Young Folks Reading Circle, of which S. R. Winchell, Chicago, is manager. It is an eight page folio, and contains, in addition to aids and directories for the Reading Circle, much interesting and valuable reading, matter. It is published at twenty-five cents per year.

—We expect next month to publish the official announcement of the State Examinations for Teachers' Certificates, which will be held in Madison Dec. 26–29 inclusive.

—Upwards of two hundred and fifty new students have been enrolled at the State University since the opening of the present year.

—In Racine the teachers propose to take up for discussion at the monthly teachers' meetings topics from the *Wisconsin Journal of Education.* We believe the plan to be an excellent one. Let anyone look over a file of late issues of the JOURNAL and see if each one does not contain several topics, the discussion of which at teachers' meetings would be exceedingly interesting and profitable. We believe that the JOURNAL furnishes every month a variety of stimulating and helpful matter which might advantageously be discussed in many teachers' meetings. We hope to receive some reports of these discussions.

—The Watertown school board has just issued a new course of study, adopted Sept. 1. We are glad to see in this also provision for instruction in elementary science in the lower grades. Hooker's Child's Book of Nature is taken here as in the Menomonie Schools as the basis of the earliest work.

—A Teachers' Reading Circle to pursue the advanced course, has been organized in connection with the Necedah public schools, of which H. J. Bowell is principal.

—A correspondent from Antigo writes: "The Institute held this year in our county had fifty-seven members, all deeply interested in the work. The general opinion of the teachers seems to be that there was a great deal more interest manifested this year than ever before at an institute in this county.

There were thirty-eight applicants for certificates at the examination which followed the institute, and fifteen certificates granted, one first grade, three second grade and eleven third grade. There has been a very great improvement in the school affairs of this county within the last two years."

READ THIS TO YOUR PUPILS.

NOW FOR THE PRIZES.—OPEN TILL JANUARY 1ST.—In the May TREASURE-TROVE the publishers offered prizes in money and books to the amount of two hundred and fifty dollars to the boy and girl story writers. It was at first intended to close the competition in June, but vacation coming so soon, left too little time for the scholars to do themselves justice; so it has been decided, in response to many requests, to reopen the competition this month, and give the young writers until January 1, 1889, to think over and write their stories.

THE AMOUNT INCREASED.

The amount has been increased to *two hundred and seventy dollars* in cash and books. And in order to give encouragement to a greater number of young writers, the division of the prizes is decided upon as follows:

10 prizes of	$10.00	each,	in cash	$100.00
20 " "	5.00	"	" "	100.00
25 " "	2.00	"	in books	50.00
20 " "	1.00	"	" "	20.00
Seventy-five prizes worth				$270.00

1. All writers must be under eighteen years of age.
2. All writers must be subscribers to TREASURE-TROVE.
3. The stories must be original.
4. The story must not have over 2,500 words.
5. The story must be on note-paper, on one side only, not rolled, and very legible.
6. You must send a statement that the story is really your own.
7. Your teacher must certify that he knows you, and believes your statement.
8. If you wish to write you must notify us at once.
9. Story must be in our hands by Jan. 1, 1889.
10. Stamps must be sent if it is to be returned.

A LARGER NUMBER OF PRIZES.

By this arrangement *seventy-five* pupils will get valuable prizes. It gives a chance to all. The prizes are not intended for the professional writers of to-day, but for the young men and women who may be the professional writers of the future. Young man, young woman: make up your mind that *you* will get one of those prizes.

Let every reader be ready to assist in this matter. Let every boy and girl in the world know about this prize offer. Send out postal cards to your young friends and tell them to subscribe, and then to write for the prizes.

Let the teachers give notice in the school, of these prizes. Some seventy-five *school boys and girls* are going to get these prizes; it will not be William D. Howells or Mrs. Burnett.

Let the teachers tell the boys and girls about these prize offers. There are many boys and girls that would like to *sell* their manuscripts; here is a good chance.

TREASURE-TROVE is a beautiful monthly illustrated magazine for young people and their teachers. $1.00 a year, 10 cents for sample copy and worth it. Thousands of teachers take it for the help it gives in school work.

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THE STUDY OF LOCAL HISTORY IN THE WISCONSIN SCHOOLS.

[Read before the Wisconsin State Teachers' Association at Eau Claire, July 4, 1888.]

I am asked to talk about "The study of local history in the Wisconsin schools." This term "local history," I assume to be broad enough to include State history and even sectional history. The school histories of the United States now in vogue are tide-water histories. They are like the Eastern newspapers,—if not ignorant of Western affairs, at least ignoring them. The curiosity of the Wisconsin child is whetted by eight dry-as-dust lines in Barnes,* reviewing the career of his native State. Father Marquette is turned off with five lines; while the name of Joliet, who was Marquette's superior in the expedition to discover the Mississippi, is nowhere mentioned.

Week after next,† at Marietta, Ohio, will be celebrated the centennial of the landing there of Rufus Putnam and his fellow soldiers of the Revolution, who made the first settlement under the immortal Ordinance of 1787. The enquiring Wisconsin youth who would know what means all this glowing oratory and commemorative display in usually peaceful Marietta, will find in his Barnes a five-line foot-note, not written to be read, pretending to give the history of the Northwest Territory,—but no mention of Marietta, or Putnam, or Dr. Manasseh Cutler, or any inkling of how it was that Wisconsin grew out of the broad domain which George Rogers Clark won by the sword, and Franklin, Adams and Jay kept for our inheritance by shrewd diplomacy.

Ninety-five per cent. of the school children of Wisconsin never get

*Barnes's Brief History of the United States, 12 mo., 1885.
†July 15, 1888.

beyond the common schools,—the district or the ward; and probably seventy-five per cent. of these make no further advance in bookish knowledge. It is therefore important that what the common schools set out to teach should be well taught, of a permanently useful and reasonably complete character. It is, I fear, too often taken for granted by teachers that the higher education awaits all pupils, and that the gaps left in their early instruction will be filled in later. But to the ninety-five per cent., the common school is the omega as well as the alpha, and not a preparatory department for advanced courses. There are some things that are universally recognized as essentials in the ward and district schools. My plea is, that the study of local history,—in the large sense which I have indicated,—be added to these essentials.

I offer no argument for an extension of the curriculum,—it is perhaps too extensive already. I would only urge a development of the study of American history, in the direction of home history. No additional text-book is needed, for this purpose, nor any extension of the hour devoted to the history lesson. What is needed is, special study upon the part of the teacher, so that the events in Western or Wisconsin development which run parallel with the events being studied from day to day in the United States history, may be pointed out in a conversational way; thus will the larger events be more firmly fixed in the minds of the pupils by grouping them with occurrences nearer home, which latter on account of their romantic interest and their local association, will not readily be forgotten. The value of history recitations in the common schools would be much enhanced by such methods. The barren lines, the dreary platitudes of the orthodox tide-water Barnes, Swinton or Quackenbos, who seldom peer over the tops of the Alleghanies, would be greatly enlivened by appreciative pedagogic interlarding of this character,—by brief dissertations upon the history of the Northwest, of Wisconsin, or of the county or town in which the school is situated.

For instance, while the child's attention is being fixed upon the great American events of the first decade of the seventeenth century,—upon Du Mont's colony at Port Royal, upon the English settlement at Jamestown, upon the discovery of the Hudson river, particular stress should be laid upon Champlain's colony on the rock of Quebec; for it was from that seed that the old Northwest grew and Wisconsin came to be a part of New France. At no time in the progress of the historical

lessons, should the child be allowed to lose sight of the course of French development up the great inland waterways of the St. Lawrence and the lakes, until Green Bay and Prairie du Chien were at last established and the life of Wisconsin begun.

Pins should be stuck at convenient points all along the historic chart, and thus day by day the Wisconsin child made to understand the position which the Northwest and his own State occupy in American history, —something he will never learn in his Barnes. When the story of the landing of the Pilgrims is reached, there should be a pause long enough to contemplate the condition of the West at that time. The thrilling tale of the Jesuit martyrs, one of the most remarkable in all history, might be briefly but effectively related. The progress of geographical knowledge under Champlain could be sketched, and some idea given of the extent, location and characteristics of the Indian tribes met with by the French explorers.

The date 1634,—when Maryland was settled at St. Mary's, when the foundations for Connecticut were being laid, when John Eliot was preaching in the forest wilds of Massachusetts and Winthrop still held sway over Boston town,—is one to which Wisconsin youth may well have their attention called. A good teacher, himself impressed with the importance of the event, should have no trouble in engraving the fact upon the minds of his pupils that in that year, 1634, the adventurous *courier des bois*, Jean Nicolet, discovered the Northwest and, first of all white men, set foot on Wisconsin soil.* No more trouble, surely, than in impressing the year 1492, as that in which the son of the Genoese woolcomber pointed out the path to America.

When, in his Barnes, the pupil comes to the founding of Philadelphia by William Penn, in 1683, his attention may with ease be directed to what was then taking place in Wisconsin,—to the notable voyage of Le Sueur over the Fox-Wisconsin watercourse, and the great events which resulted from it. And in this connection he should be told of previous voyages over this historic waterway,—of the thrilling adventures of Radisson and Groseilliers, who ascended the Fox in the wake of Nicolet, a quarter of a century after that daring explorer; and who probably descended the Wisconsin and discovered the Mississippi at Prairie du Chien fourteen years before Joliet and Marquette; and who

* C. W. Butterfield's *Discovery of the Northwest* (Cincinnati, 1881); and article on "Jean Nicolet" in *Wisconsin Historical Collections*, Vol. XI.

afterwards built a fort on Chequamegon bay and spent a winter in wandering through northwestern Wisconsin and northeastern Minnesota,—in the course of these adventures experiencing a famine, the sublime horrors of which are depicted in Radisson's Journal* with a painful minuteness worthy of Hogarth. He could be told the fascinating story of Joliet and Marquette, who went over this watercourse to re-discover the Father of Waters; the vivid tale of La Salle's terrible experiences in the Mississippi basin, should not be missed in this connection.

When the class topic is Salem witchcraft, in 1692, it would be interesting for the teacher to turn aside for a moment and allude to the fact that in that year a French fort was established at La Pointe, and then, in a few generalizing sentences to trace the extent and character of French domination in what is now Wisconsin, at the close of the seventeenth century.

And so on, through the eighteenth century. The location of the French trading posts along the east bank of the upper Mississippi, could be pointed out. Something could be told, in passing, of the bloody and protracted wars between the French and Indians along the Fox river, in the struggle for the mastery of this gateway to the Mississippi. Emphasis could be laid on the fact that 1761, the year in which Pitt, the "Great Commoner," died, brought not only certain changes in American tide-water affairs, but that in this very year English domination was inaugurated in Wisconsin by the establishment of a garrison at Green Bay. The year 1763 was famous in the West for Pontiac's war, but Barnes gives a few lines only to that greatest of Indian conspiracies. Western youth should be told the story in some detail. The boy or girl living in any of the northern Wisconsin counties would surely be pleased to know that the first naval expedition under the British flag, ever made across Lake Superior, was undertaken in the year just previous to the Pontiac war.†

Three years after the Pontiac uprising, the elder Langlade settled at Green Bay, possibly the first permanent white resident on Wisconsin soil.‡ Jonathan Carver also made in 1766, his famous tour up the Fox and down the Wisconsin and then up the Mississippi to the Falls of St. Anthony.§

* *Wisconsin Historical Collections*, Vol. XI.
† Thompson Maxwell's Narrative, in *Wisconsin Historical Collections*, Vol. XI.
‡ For sketch of Langlade, see *Wisconsin Historical Collections*, Vol. VII.
§ See Durrie on Capt. Jonathan Carver, in *Wisconsin Historical Collections*, Vol. VI.

The Revolutionary war was not confined to the East, and the student who knows his Barnes by heart may not have heard of George Rogers Clark,—while the ninety-five per cent. who never receive the higher education are quite likely to go down to their graves without knowing of the masterful military stroke which saved Wisconsin and the entire Northwest from being still part and parcel of the sleepy old Province of Quebec. The Wisconsin child should certainly be told something of what was going on here in Wisconsin during the Revolutionary war,—of Clark's intrigues with the Wisconsin Indians; of the British expeditions under Langlade and Gautier; of the part Wisconsin Indians played in Hamilton's forays, in the attack on St. Louis and in the bloody struggle along the lower lakes; and of the influence of our Green Bay fur traders on the general conduct of the war.*

The year 1781, when Cornwallis surrendered, is memorable in Wisconsin annals as the year of the first white settlement at Prairie du Chien. The date of Shay's rebellion in Massachusetts and the framing of the federal constitution,—1787,—was the date of the passage of the great Ordinance under which American government was organized "northwest of the river Ohio." While in March, 1788,—the year of the ratification of the constitution,—came the first American settlement at Marietta; and the 15th of July, one week from next Sunday,† will be a red-letter day in our history, for it will be the centennial of the formal establishment of civil government in the Northwest,—the inauguration of Gov. Arthur St. Clair. These are facts which no Wisconsin common school teacher should rest satisfied without impressing more or less firmly upon his pupils,—especially upon the ninety-five per cent. who may never learn them anywhere else.

The war of 1812–15 may be similarly illustrated by citations to Wisconsin events. Green Bay and Prairie du Chien were by this time considerable settlements, while fur traders were located at the Portage, at Kaukauna, along the shores of Lakes Michigan and Superior, and—the woods were full of them. The story of the British expedition against Prairie du Chien, in 1814, should be briefly told,—the quarrels between the partisan leaders, the winter famine experienced by Dickson's corps on Lake Winnebago, the attack itself and the retreat of the American colony on a log-cabin gunboat, are picturesque details that would

*These forts are fully set forth in "Papers from the Canadian Archives," *Wisconsin Historical Collections*, Vol. XI.

†This paper was read July 4.

ever be remembered by any bright Wisconsin lad.* The events of the Black Hawk war of 1832, would bear relation,—the flight of the Sac leader, the running skirmish at Madison, the slaughters at Wisconsin Heights and the Bad Axe, the capture of Black Hawk by the Winnebago guerrillas; all this is quite as thrilling as anything the boys can find in the dime novels, with the advantage of being true, as well as rich in local color.† The Red Bird war in 1827, although not much of a war, is a picturesque chapter in Wisconsin history, to which the teacher could profitably devote a few minutes while upon the general topic of John Quincy Adams's administration. The story of the surrender of Red Bird at Portage, so often told, is an affecting one that, I remember, brought tears to my eyes when I first read it and I can well imagine that it would create interest in a school-room if properly related, and be a peg on which to hang many an interesting fact in local history.‡

The main facts relative to our erection as a Territory, fifty-two years ago this very day; and, twelve years later, to our admission to the Union, might be cast into the form of pleasant narrative by a teacher who understood their significance. Some fresh facts about the railroad development of the state; the Fox-Wisconsin river improvement;§ the contest in this state over the fugitive slave law; the noble part taken by Wisconsin in the War of the Rebellion; the great fires in our northern forests; the wonderful growth in our mining industries; the incipient railroad war in 1874; the labor riots in Eau Claire and Milwaukee,—such striking Wisconsin events as these might be incidentally brought out in the class-room, all of them suggested by some date or fact in the history lesson just then being studied. All this would involve some special study on the part of the teacher of American history, but not as much as might at first be supposed; while his pupils would surely display sufficient increase of interest to well repay him for his exertions.

The study of Wisconsin history need not be general. It may easily be localized, with profit to all concerned. Nearly every important county in our state has had its chronicles published in book form,—painfully profuse and unscientifically shovelled in between the covers, to be sure, but amidst all the chaff may be found a few kernels. There

* *Wisconsin Historical Collections*, Vols. X. and XI.
† *Magazine of Western History*, Nov. and Dec., 1886.
‡ See "The Winnebago War of 1827," in *Wisconsin Historical Collections*, Vol. V.
§ See sketch of the improvement, in Morgan L. Martin's Narrative, *Wisconsin Historical Collections*, Vol. XI.

is no excuse for the child old enough to study history at all, long remaining unacquainted with the chief historical landmarks in his own county,— the origin of its name; the names of the Indian tribes formerly occupying its territory; what, if any, fur trading posts were located within its borders, and where; something of its topography; the date and reason for the first white settlement and the name of the settler; when the county was organized and the county seat established; how many soldiers the county sent into the War of the Rebellion and what, if any, of these won real distinction in their country's service; if his county has sent up any State or national officials of considerable importance, the pupils ought to know their names; and in general, his curiosity as to the history of his own home may be profitably stimulated and satisfied.*

The Milwaukee boy, for instance, should have at least a smattering knowledge of Solomon Juneau, and the long line of fur traders who preceded him,— Vieau, La Framboise, Mirandeau, Anderson, Le Clair; some of them driving sharp bargains with red men at the mouth of Milwaukee river before Juneau was born.† The Green Bay lad who knows nothing about Nicolet, Allouez, the Fox war, the French and British dominations, Langlade, Dickson, Lawe and the Grignons, might as well live in the Congo basin so far as the loccal value of his education goes. In Prairie du Chien, the scholar who does not stand in reverence before the remains of the old fort, or become rapt in contemplation as he watches the merging of the turbulent waters of the Wisconsin and the Mississippi,— knowing naught of Marquette, or Radisson, Hennepin, Perrot, Le Sueur or Carver,— is indeed an object of pity,— but his school teacher more so. In the lead-mine district, there are stirring historic memories reaching back to garrulous Radisson; along the northwest boundary, adventurous Du Luth pushed his

* Oct. 2—I am pleased to note that this suggestion has been adopted by Superintendent Addie Neff, of Clark county. In advertising her institute recently, she made the following requests of the teachers under her superintendence:

"To aid you in getting material for local history, I ask you to come prepared on the following topics:

Your town:
(a) Origin of name; when organized.
(b) First settlers.
(c) Origin of the names of the post offices and villages in your town.

Clark Co.; (a) Name.
(b) When organized; size at that time.
(c) When was the county seat established.
(d) Origin of the names of the streams in the county.
(e) What Indian tribes occupied this territory.

Make an effort to get reliable information."

† Material of this character may be found, not only in the Milwaukee city and county histories, but also in fresh detail in the Narratives of Andrew J. Vieau, Antoine le Clair and George P. Delaplaine, in *Wisconsin Historical Collections*, Vol. XI.

forest trade two centuries ago; on the shores of our most northern inland lakes were, until recently, the ruins of many a trading post established in the days when Wisconsin was an outlying precinct of New France. Hundreds of schools,—city, village and country,—stand within sight of the interlocked watercourse of the Fox and Wisconsin rivers. For two and a half centuries, there has been passing over these twin streams a motley procession of Jesuits, explorers, traders, voyageurs, soldiers and pioneers. The child born upon the Mayflower had passed but fourteen summers, when the history of the Fox-Wisconsin waterway began. Here indeed, is a flavor of antiquity; and what boy or girl in these hundreds of school-rooms looking out upon the glistening flood, but whose heart would beat faster, whose step would be firmer, whose imagination would be quickened, when told of the stirring events that have made this forest-girted highway storied.

On the shore of many a lake, on the bank of many a river, on many a hilltop, here in Wisconsin, there exist object lessons in local history more or less ancient,—the earthworks of the much-discussed mound-builders; crumbling fire places, marking the spots where French traders once held covenant and commerce with the red men; old fur trade ware houses upon whose rough-hewn skeletons of oak still hang the tatters of a century's decay; while even the arrow heads and rude copper implements* turned out by a neighbor's plow may be used as a text for instructive discourse to enquiring youth. Happy the teacher who has delved deep enough into the mystery to turn these historic relics to profitable account; blessed the children who have such an ideal teacher.

But how is the Wisconsin teacher to qualify himself or herself for these daily talks on local history, by way of supplement to the tide-water text-books? There is as yet no adequate history of Wisconsin written, but there are makeshifts on every hand, and abundance of original material for those who seek it. The *Wisconsin Blue Book* has a meager outline history and a really excellent chronological table, that may do duty in lieu of something better. But a county history of some sort should be in every large school. These will furnish purely local details; while a general State history is given in the most of these volumes, as prefatory matter. Original materials will be found in the eleven volumes of *Wisconsin Historical Collections*. Mrs. Kinzie's

* See Butler on "Prehistoric Wisconsin," in *Wisconsin Historical Collections*, Vol. VII; a few copies of a reprint of this article are in the possession of the State Historical Society and will be sent to Wisconsin teachers who ask for them, until the stock is exhausted.

Wau Bun will be found useful for local color and early life on the frontier, in the hands of a competent teacher. For the romantic story of the French regime, the glowing pages of Parkman may be consulted; and I can imagine no pleasanter school-room treat than occasional readings from the volumes of this prince of American historians. Winsor's *Narrative and Critical History of America* may be freely drawn upon; and especially to be recommended as in line with this work under discussion, is Vol. VI. of the series; the concluding article in that volume, "The West," by Dr. William F. Poole, of *Index* fame, is the best popular account yet written of that daring military adventure which made the name of George Rogers Clark immortal. The ambitious teacher who would know still more of the West, in order to illustrate the outlines of the school histories, will find Barrows's *The United States of Yesterday and To-day* a desirable handbook; while Hinsdale's *Old Northwest* and Drake's *The Making of the Great West*, are to be recommended as valuable school-room assistants in work of this character.

I cannot close without directing your attention to the value of what has come to be called "Old South work," as a means of interesting youth in the study of local history. For five years past, in the Old South church at Boston, there have been given series of free lectures to school children upon important personages, events or epochs in American history — chiefly New England history. Some of the brightest historical students in the East have been engaged in this work, which is liberally endowed by a wealthy Boston lady, Mrs. Mary Hemenway, and admirably managed by Mr. Edwin D. Mead, himself well-known in the world of letters. The popularity of these lectures, written especially for Boston youth, have attracted not only the sympathy and co-operation of Boston teachers, but marked attention the country over. The idea, with local variations, has been transplanted to Chicago and Indianapolis; while in Madison, the capital of our own State, a vigorous offshoot from Old South has been reared,—the theme, the past winter, having been the history of the Old Northwest, treated in chronological order in six talks by local lecturers. These Madison lectures are to be repeated next fall in Milwaukee, thus inaugurating Old South work in that city.* There are other cities in Wisconsin where local talent may

* The Madison course consisted of six lectures. The first was by Prof. A. O. Wright on "The Discovery of the Northwest," the subsequent lectures being as follows: "French Occupation of the Northwest," by Prof. James D. Butler, LL. D.; "The Ordinance of 1787,"

be procured for just such work as this,—in Oshkosh, La Crosse, Racine, Eau Claire, for instance, there are those who can talk with profit to the boys and girls of fifteen or upwards, upon interesting historical events, either local or general; the War of the Rebellion is of itself a topic that would be able to call out many whose association with that fierce struggle would lend to their words the unfailing charm of personal narrative.

These Old South lectures should, in order to have the widest educational influence, be absolutely free, the necessary expenses being paid by popular subscription or the endowment of the public-spirited few. The lecturers should be instructed, as the saying at Old South church goes, to "shoot for the bright boy of fifteen;" and the teachers in the public schools should be foremost in inaugurating the enterprise. The time allotted to me does not permit of a full presentation of the benefits to be derived by youth from such free popular historical lectures as the Old South idea contemplates. I can but venture the suggestion, and urge Wisconsin teachers, especially in the large communities, to take up the work in the interest of popular education. We have not here in the West, any Old South church, with its glorious memories of the dawn of American freedom, inspiring our youth to a devoted patriotism; but if the teachers of Wisconsin will it, there is no village school in our commonwealth so far removed from that seat of inspiration that the spirit of Sam Adams and Otis and Hancock and Warren, Washington, Lincoln and Grant, may not abide there; and the names of Wisconsin epoch-makers, as well, become as household words.

Reuben G. Thwaites.

MADISON, WIS.

BIBLIOGRAPHICAL NOTE.—The prime source of materials for the study of early Wisconsin history is the *Wisconsin Historical Collections*, of which eleven octavo volumes have thus far been published by the State Historical Society. The early volumes can now no longer be supplied by the Society; and great care has to be exercised in distributing the latest, the size of the edition being wholly inadequate to the demand. Yet complete sets of the *Collections* ought not to be uncommon throughout the State. A newly edited reprint of the early volumes would be very desirable, to meet the present active call for them by teachers and special investigators.

Consul W. Butterfield has written several excellent condensed historical

by Frederick J. Turner; "The Division of the Northwest Into States," by Reuben G. Thwaites; "Commonwealth Builders of the Northwest," by Frank A. Flower; "The Position of the Northwest in General History," by Prof. William F Allen. It is understood that in Chicago next winter, this identical Madison programme will be followed, with Chicago lecturers.

sketches of the State, the best we have. One of these will be found in the opening pages of each of the series of county histories published from 1879 to 1882, inclusive, by the Western Historical Company of Chicago. The sketch in the histories of Vernon, Crawford and Green counties will be found superior to the others, having been revised and somewhat condensed. Similar historical sketches by Mr. Butterfield may be found in Snyder & Van Vechten's *Historical Atlas of Wisconsin* (Milwaukee, 1878); in the Wisconsin number of *Descriptive America* (New York, Oct. 1884); in Hubbard's *Newspaper Directory of the World* (New York, 1882); and miscellaneous sketches of details in Wisconsin history, in the *Magazine of Western History*, during the past two years.

The *Wisconsin Blue Book* chronology is useful and convenient.

The following, more or less accessible, may be consulted: *History of Wisconsin*, by Donald McLeod (1846); *Wisconsin*, by I. A. Lapham (1844, enlarged in 1846); *History of Wisconsin*, by William R. Smith (1854, Vols. I. and III., all that were published); *Illustrated History of the State of Wisconsin*, by C. R. Tuttle (1875); *History of the Territory of Wisconsin, from* 1836 *to* 1848, by Moses M. Strong (published by the State, 1885).

Special works of interest, are: *Fathers of Wisconsin*, by Horace A. Tenney and David Atwood (published by the State, 1880), being an account of the two constitutional conventions, supplemented by biographies of their members; *History of Education in Wisconsin* (published by the State, 1876). *Wau Bun, the Early Day in the Northwest*, by Mrs. John H. Kinzie, was originally published with illustrations, by Derby & Jackson, New York, in 1856; it was re printed in smaller and cheaper form and without plates, by J. B. Lippincott & Co., Philadelphia, in 1873. It gives graphic pictures of life and manners at the Wisconsin frontier posts, before and during the Black Hawk war. Judge George Gale's *Upper Mississippi; or, Historical Sketches of the Mound Builders, the Indian Tribes and the Progress of Civilization in the West* (Chicago, 1867) is now rare, but any teacher who can secure a copy will find in it excellent material. But the latest conclusions regarding the mound-builders should be sought in Cyrus Thomas' *Work on Mound Explorations*, (Bureau of Ethnology report, 1887); in articles by Thomas in *Magazine of American History*, for May, 1887, and September, 1888; in Lucien Carr's *Mounds of the Mississippi Valley* (Memoirs Ky. Geolog. Survey, Vol. II.); and in P. R. Hoy's *Who Built the Mounds?* (Trans. Wis. Acad. Sci., Arts and Letters, Vol. VI.) I. A. Lapham's *Antiquities of Wisconsin*, (Smith-Contr., 1885) is rare, but well worth hunting up, being written in quite the modern spirit. Most of the great mass of literature about the mound-builders is unscientific and romantic, and not worthy of serious attention. The vexed question of who made the "prehistoric" copper tools is well treated by P. R. Hoy in the Wisconsin Academy volume above cited; Professor Butler's pamphlet on *Prehistoric Wisconsin* has has been alluded to in a previous note.

Wisconsin's part in the War of the Rebellion may be studied in: *Annual Report of the Adjutant General* [Aug. Gaylord] *for* 1865, now a very rare book; *The Military History of Wisconsin*, illustrated with steel engravings, by Edmund B. Quiner (Clarke & Co., Chicago, 1866, pp. 1022); *Wisconsin in the War of the Rebellion*, with steel engravings, by Wm. De Loss Love (Church &

Goodman, Chicago, 1866, pp. 1144); also in several fugitive pamphlets and booklets, although Wisconsin has not yet developed many writers of war reminiscence.

For a general study of the Northwest Territory, the most available work is that recently written by Prof. B. A. Hinsdale, *The Old Northwest, with a view of the thirteen colonies as constituted by the royal charters* (Townsend Mac Coun, New York). This is an admirable book and may be cordially recommended to teachers desiring to become well-informed regarding the Northwest, as a groundwork for instruction in Wisconsin history.

The notable discovery of the Mississippi by Joliet and Marquette may be best studied in detail, in *Discovery and Exploration of the Mississippi Valley, with the Original Narratives of Marquette, Allouez, Membre, Hennepin, etc.*, by John G. Shea (New York, 1852–53). Shea's *History of the Catholic Missions among the Indian Tribes of the United States, from* 1529 *to* 1824 (New York, 1855) may be profitably studied, in connection with Parkman's *Jesuits in North America.* A comprehensive account of the French occupation will be found in the introductory chapters to Parkman's *Conspiracy of Pontiac;* this rapid review will be useful to teachers not acquainted with the earlier volumes of Parkman. A thorough reading of Parkman's nine volumes is, however, to be earnestly urged upon teachers who wish to have a good foundation upon which to coach their pupils in Wisconsin annals. R. G. T.

SHALL WE TEACH CHILDREN TO SEE WHAT IS.

More than two thousand years ago Plato said "Man is not a system builder; his loftiest attainment reaches no higher than this; through endeavor, through discipline, through virtue, he may see what is."

In studying natural objects must we not be guided by this principle? Through endeavor, through discipline, through virtue, the child must *see* what *is.* But where shall we begin to teach the child to see what there is to see? Shall we begin with zoology, or botany, or ornithology, or some other ology? It matters not so much *what* the child sees first as *with whom* he sees. He needs some one to teach him to see the *great* in the little, to see the *beautiful* in the common object.

Happily the *love* of Nature is divinely implanted in the heart of every child. It is our duty as teachers to develop this love, to give it guidance, direction, control. Nature pours *all* the material we need into our hands. She is never niggardly, deceitful, or treacherous.

Children go about with their eyes shut, stone-blind to Nature's Jewels flashing on every side, simply because no one has taught them how to see. Their parents have taught them how to eat, drink, and talk. Their teachers are required to teach them the three R's that they may

be enabled to cope with the three B's,—Business, Bread and Butter. This, of course, is important and indispensable. Now let the teachers open the eyes of the children to the world about them and they will be good and happy and doubtless find heaven without difficulty. They will wander, wonder, and worship. Every time they walk or ride they will do so with pleasure and profit, and will return wiser and happier. Every creature they meet will be an amusing, instructive friend. And whoever has such an interest in Nature that every thing is companionable will never be lonely or unhappy long at a time. His attention will be so occupied with the interesting things about him that time will never hang heavily on his hands. What a wealth of vegetable and animal life is ever before him who has eyes to see it, what beauties show themselves along the way! Every crevice is *full.* The great need is eyes, eyes, *more* eyes, *sharper* eyes. Anyone who can use his eyes as he might be taught to use them can revel in dreams of beauty; he can appreciate that there are, as we are told,

> "Tongues in trees, books in the running brooks,
> Sermons in stones, and good in everything."

He can look into a flower bell and get a glimpse of heaven. Can you see heaven in a flower?

When one's eyes are truly opened he is constantly laying up a store of beautiful pictures that he can by introspection call before him wherever he may be, whether at home, in a crowd, or among strangers. The plants and animals he makes his friends in his youth are as truly his friends in his old age. What is more pitiful than an old man with a vacant mind; with eyes blinded to the present scenes and with no power to call up the beautiful world as it was in his youth! Then, indeed, the world seems cold and dark.

The plastic minds of children will easily grasp the distinction between noble and ignoble thoughts. In learning to love the beautiful in Nature children learn to have good impulses and pure thoughts. Youth must be your seed time if you expect a rich harvest of thought. You can not gather grapes of thorns nor figs of thistles.

Again I ask where shall we begin to teach the child to see? In these days we profess to proceed from the known to the unknown. All children know the gay, roving butterfly, by sight, but do they know that he is born in one form and dies in another? Do they know of those six peculiar legs, of the mysterious, flexible tube for sucking honey?

Have they ever seen the beautifully fluted and scalloped little scales on its wings? Or shall we take first another form of this strange little creature? Teach any form *well* and the children will be *anxious* to learn the others. Watch with them the opening of a chrysalis, that most extraordinary phenomenon in Nature. See it push out its head and put forth its antennae as if delighted to be released from its prison; see it crawl out of its skin and unfold the queer lumps on either side its body into beautiful wings, gleaming with azure and gold; see the wings vibrate rapidly as though trying their strength in the new world. Presently as it mounts up and soars away in search of its delicate nourishment, it is difficult to tell which is the more intoxicated with delight, the butterfly or the children. By this time their curiosity is aroused, their interest is enlisted, and they are for the first time aware that miracles are being performed in these days, and in their very presence. It will then be an easy matter to interest them in other "flowers of the insect world," as some one has aptly termed the insects.

Perhaps you love birds better than you do other animals. They are delightful creatures, and I never saw a *child* that could not be interested in these feathered songsters. Take the brown thrush for a little study. Go out some fine morning, when the face of creation is fresh and bright, and the dewdrops on each leaf are glistening like precious gems in the rising sun, and see this bewitching songster perched on the topmost branch of some cherry tree near the house, with head erect, facing the sun, like the veritable sunworshiper that he is. Listen to his flute like notes, his bubbles of joy, his song of ecstasy that he pours forth as he enjoys the balmy morning air and the fragrance of the cherry blossoms. See his rich russet-brown coat shining in the sun; note his shapely form, his graceful manner, and your heart will be so filled with brown-thrush beauty that you will not be content till all of your pupils become acquainted with the brown-thrush.

Get one bird into their eyes and hearts and you will find plenty of room there for more. Teach them to observe and admire their plumage, their habits, their eggs, their songs. Teach all children the look of *deadness* in every dead bird they see on a woman's bonnet. Ask them to pledge themselves never to wear dead birds or parts of dead birds. Set the example by taking the little wings off your own hat and declaring you will wear no more dead birds or parts of dead birds while the world stands. Teach the children to love such poems as Longfel-

lows "Birds of Killingworth." Then their hearts will be gladdened with soft music, and their eyes delighted with the grace and beauty of their bird friends. Some one has said that the world without birds may be likened to childhood without laughter, to the night without the stars, to the trees without their leaves, to the garden without flowers.

Suppose you appoint one day in the term as Sight-seeing Day to take the place of the picnic which seems to be a necessity in so many schools. Let the day be near the opening of the term rather than at the close. As you start out let the children begin at once to exercise their senses. Call their attention to the opening buds, to the tender leaves with their great variety of form and veining, to the graceful branches of the oak and hickory fringed with their silken tassels, to the little bluett that lifts up its face to the blue heaven that reflect back its color, to the anemones and hepaticas, "for Solomon in all his glory was not arrayed like one of these," to the blue bird with its sweet tender warble as it flits about in search of some snug nesting places, to the rose spot on the breast of the gross beak, to the whistle of the oriole, to the brilliant plumage of the scarlet tanager which looks like a bright blaze among the green leaves, to the saucy flirt of the catbirds's tail as he sings his delightful song, to the hop of some birds, to the walk of others, to the soar of one, and the bounding flight of another.

As you saunter through the woods let the children gather some land-snails from beneath the decayed sticks and leaves. They will find them of all sizes, from the size of a large acorn to the tiny baby snail. Get also a collection of fresh water snails if possible. The children will be interested in the whorle, the sutures, the apexes. They will be amused to find that some shells are lefthanded and some are righthanded. They will quickly discriminate between the elongated spires, the flattened spires, and the short spires, and thus learn to classify. They may discover for themselves that some snails have an operculum while others have none; that some have two tentacles and others have four, that some have eyes at the base of the tentacles while others have eyes at the tip of the tentacles. They will call on you to tell them why some of the water snails frequently come to the surface of the water, while others remain at the bottom of the glass jar in which you have placed them. You may be fortunate enough to show them the little glittering needle-like tongue of the fresh water snail as he darts it out of his mouth in hopes of getting some of the green scum of which he is so fond. It

will now be an easy matter to get them to make a collection of shells and snails from which they may derive much real pleasure and profit. By this time they are rested from their tramp and are ready to continue their sightseeing on their way home. When you reach home at night instead of saying with the rest of mankind how tiresome picnics are, you will say with the poet,

"Oh, when some day
In vain I pray
For days like this to come again,
I shall rejoice
With heart and voice
That one such day has ever been."

"And these are but one day's riches,
The gatherings of our hour;
But every day is mighty,
Each night is a night of power.

For all of the dear old planet,
All of the deep blue sky,
All that the ear can harken,
All that can fill the eye,

Is mine by the law of Beauty;
And men may give or withhold,
When He who is God of Beauty
Her secrets to us has told."

In childhood the mind demands new material, and if abundant material is not furnished it, the child will manufacture wild, sensational matter for himself; and when he tells us his strange stories we regret that he has such a peculiar imagination and fear he is unbalanced, or weakminded. Who is the stupid? The teacher ought to give the child guidance in finding material in Nature with which he may gratify his natural longing for the new, the curious, the sensational. And what better material does the teacher desire than is found in the study of botany. There matter is abundant, attractive, clean, free from all suggestion of vice or cruelty. To interest a child in a plant is a little thing, but it is the little things, the small beginnings, that make the solid foundation of greatness in this world.

Youth is the time when the perceptive faculties are easily developed, and when new impressions are received with enthusiasm. Much time

has been spent, and great care has been taken in the home in teaching the child to perceive differences and likenesses between common objects, properties of different substances, and to associate names with concrete objects. Why not go a step farther and teach him to observe likenesses and differences in the vegetable world, and make him willing and able to do this by himself. This is to teach botany, and the *will* and *power* which arise from such observations, comparisons, judgments are of the same nature as that which make the shrewd business man, the able lawyer, the eminent statesman, and the successful teacher.

The study of botany enables every child to see the object and judge for himself, and does not compel him to take some other person's judgment in the matter. He learns to observe the relation of cause to effect, and learns to depend upon his own judgment, which is a matter of great importance in every avenue of life, moral, social, political. Children are easily interested in this noble study and enjoy it greatly, and when once interested they will never turn away from the elevating pleasures they derive from pursuing it. It will fill the ground that should be sacred to pure thoughts with facts fit for the courts of heaven.

When our eyes are truly opened to the world about us how much exquisit pleasure we drive from the countless gradations of color? How glorified are the simplest, most common objects? The gray stones in the stone fence are rough, coarse and unsightly because you have never really seen the lichens spread lavishly, in soft splashes, over their cold rugged surface; nor traced their delicately convoluted edges, their graceful outlines, their infinite shadings of soft color, gray, purple, golden-brown, green-gray and pearly tints.

You call the old rail-fence ugly, and the new wire-fence pretty. But go out into the soft meadow lands and examine almost any fence corner. Creeping along the moist surface will be seen the soft, spongy, emerald green mosses, brocaded with rich golden-brown, with pile softer than can be woven in velvet looms beyond the sea; and in the same fence corner you will find a fringe of nodding, graceful, feathery ferns, whose soft shadings of green are a delight to the eye. Children can be taught to appreciate these things.

If the boy is taught to see the interesting things about him he will not be in such haste to leave the old farm. Many a boy has left the farm because be saw no beauty in the growing cornfield. He saw only the length of the row and the size of the field. Had his eyes and ears been

truly opened he would have seen beauty to enjoy in the tender green blades; he would have watched with pleasure the development of the plants; he would have listened with delight to the enrapturing song of the meadow-lark, the bobolink, the song sparrow. Now he sees the bird on the fence near by and thinks what a good shot that is; how I wish I had a gun!

The boy left the farm because there was something in his nature that called for more than farm drudgery could supply. Had his powers of observation been developed, he would have been charmed into love of the farm scenes, his memory would have been filled with sweet, pleasant images of the beauty and mystery of Nature; he would have had a real genius for remaining on the farm, would have maintained the dignity of human nature, and known himself for a man.

Many a school teacher has failed because she thought to teach school was to teach books. A good pocket lens rightly used would have made her a favorite in that school and assured her success.

Many a peevish woman has wrecked herself and her family because she saw nothing interesting in the silent life out of doors. She saw only her ugly kitchen and her wretched self. Had some teacher led her, in her girlhood, to see what there *is* she would have had a rich kingdom to enjoy outside of her four square walls.

Sick people often suffer because they cannot see in imagination the beautiful scenes out of doors. Their minds dwell upon themselves and thus their miseries are increased. Their impressions of Nature are vague, indistinct, owing to the fact that they have never really seen what there is to see. If you speak to them of the king bird, the finches, the Carolina wax wing, it means nothing to them, though they have lived neighbors to these interesting creatures all their lives. They have little appreciation of any color in the vegetable world but green and red. They know nothing of the lovely browns, and grays, and fawn colors, the delicate shades and tints. What beauty, what life, what society they have missed; and all because they did not know how to use their eyes.

The poets have no more interesting world than we have, yet we are continually giving evidence that we think they have. The poets are in sympathy with Nature, we are not. Poetry is full of flower-gems and bird-songs, and how content we are to let the poets tell us what there is to see and hear. Instead of hearing and seeing for ourselves we take

a volume of Tennyson, or Steadman, or Wordsworth and swing in the hammock and enjoy their descriptions of what they have seen. A bird-song, a daisy, a landscape has no hidden meaning that only a poet's imagination can interpret. He sees what we might see, had we learned to use our eyes. We see what we bring eyes to see, and hear what we bring ears to hear. Bryant tells us,—

> "Yet these sweet sounds of the early season
> And these fair sights of its early days,
> Are only sweet when we fondly listen,
> And only fair when we fondly gaze."

Then give us someone who can teach us to fondly listen and fondly gaze.

If our souls are in sympathy with Nature, our intellects will be quickened and our creed be broad and sympathetic. *See* what is magnificently true around you and *listen* to the voice of eternal wisdom spoken by Nature on all sides, calling you to make life more moral, more pure and innocent, and to live on a higher plain than the common level.

Cornelia Rogers,

WHITEWATER, WIS.

THEORY AND PRACTICE.

MY SUCCESS IN INTRODUCING GOOD READING IN A COUNTRY SCHOOL.

"There are country children who attend school twenty-four weeks in a year, read from dry worn out reading books, and have parents at home with minds perfectly barren except for thoughts about getting a living. These children spend the lonely, quiet evenings, which might be made so full of glad opportunity, in perfect idleness and apathy, their only pleasure being in the gratification of appetite. There is just one reason why these must grow into carnally minded, ignorant, narrow men and women. No one furnishes them with reading at home."—*Lend a Hand*, September, 1888.

With this for my text, let me tell the story of one school in Wisconsin. One day last Spring, a Miss Campbell, from Riley Station, (In the town of Verona), was sent to me by one of the Madison teachers, to ask my advice in regard to supplementary

reading in her school. She told me that her scholars had lost all interest in their Thursday afternoon exercises, reading, speaking pieces &c., because they had only old reading books from which they had read and spoken till they knew the greater part of them by heart. She thought, that if she could introduce some really interesting book, it would improve the work and also help in forming a taste for good reading. After looking over various books suited for such a purpose, she selected "Young Folks Robinson Crusoe" saying, "The children are not up to anything more than a story, yet. I'll take this as my first step. If they work well with this, we can go on to something higher." This "Robinson Crusoe" was written by Mrs. Eliza Ware Farrar, wife of Prof. John Farrar, of Harvard College, and was first published more than fifty years ago. In Mrs. Farrar's "Address to Parents" which prefaces the book she says, "The Author thinks, with Rousseau, that Robinson Crusoe might be made a great instrument in the education of children, leading their minds to philosophical investigation of man's social nature, and introducing them to trains of thought which no other story can so well suggest." The present edition is edited by William T. Adams (Oliver Optic), who says, "It is the only Robinson Crusoe read by the editor, till within a few years, and was the standard edition in use by those in this vicinity (Boston) who read children's books half a century ago." Six of Miss Campbell's pupils decided to buy this book, one boy buying it with his own earnings, he was so anxious to own it. These, with the copy which I lent her, sufficed for class use. The children were enthusiastic, the reading class was rejuvinated, and the progress in good reading was in proportion to the enthusiasm.

I also lent Miss Campbell, the Chapters on Ants in "Nature Readers," published by D. C. Heath & Co., the most satisfactory books for instructing children in Natural History with which I have ever met. She used this book the a time for drawing exercises. She had each child bring an ant as an illustration to the text, and after getting them intensely interested in finding out from the real creatures what is told of them in the book, she led them to observe the homes of the ants and their mode of work, opening their eyes to the wonders which one meets, even in the daily prosaic walk to school.

I lent her also "The Seven Little Sisters Who Live on the Round Ball that Floats in the Air" (published by Lee & Shepard), which de-

scribes the child-life of seven different races. This book was first published in 1861, and has since been through edition after edition, its value being so generally acknowledged. The superintendent of schools in Janesville, Mr. C. H. Keyes, spoke of it in an educational meeting at Madison, as the first book which aroused his intellectual life, and he has since told me that there are nearly twelve hundred children in Janesville, Wis., who can about say it by heart. A teacher of seventeen years record once told me that one class in geography baffled her best efforts, till she threw aside all the so-called text-books and used only "The Seven Little Sisters" as a manual. From that time the class became successful and enthusiastic. This book is used as supplementary reading in the schools of Boston, Mass., and also in very many other schools throughout the country. I give the account of these books rather minutely, that it may be clearly seen what class of literature Miss Campbell attempted to introduce to the future men and women of Wisconsin.

Miss Campbell's record with "The Seven Little Sisters" is that she read it to the children at such times as she could secure, without neglecting their regular school work. The children enjoyed the book so much that some of them begged her to keep on after school hours. She had the scholars point out on a map the countries where the children of the stories lived, the home of Agoonack in the frozen north, and where Louise lived by the beautiful river Rhine, and she talked with them of the mode of life of the inhabitants of those countries.

Now to offset all this, here let me give the record of the district. In July they held a school meeting, at which one of the leading men, the heaviest tax payer in the town, arose and said he should like to know why he was to pay his money to a teacher who brought "*pismires*" into school, and taught the children about them, and who introduced "THE NOVEL." Several others, eager to follow their leader, echoed his sentiments. As a result that school has a new teacher this term, and the children's winter evenings, which might have been brightened by the enjoyment of new books and the fresher and broader outlook which they bring, are now left to plod along in the same old, dull way. But let us hope that the seed already sown, will not prove fruitless, and that a few boys and girls at least are awakened to the pleasure and value of good reading.

MADISON, WIS. *Mrs. William F. Allen.*

ANOTHER TOWNSHIP HIGH SCHOOL.

The measure organizing the Colby Township High School was voted on and carried by a large majority at the spring election held April 7, 1885, and the school was formally opened in the September following. The district comprised at that time the towns of Hull and Colby, Colby being a double township. In 1887 the western half of the town of Colby was organized as the town of Green Grove. Consequently, what is known as the Colby High School District covers an area of three townships, and the school itself is located three miles east of the geographical center of the district and but little east of the center of population.

The school opened with an enrollment of 35 pupils which has varied from 25 to 30 during the fall and spring terms to about 35 during the winter terms, while the average daily attendance for the three years that the school has been in operation is 25.

Of all the pupils whose names have appeared on the register over 30 per cent. have resided beyond the limits of the village school district. The number of pupils from the outlying districts is slightly greater in the fall and winter terms than in the spring, because of the indispensable labors incident to farming in a new country as well as to the demands of the saw mills for hands. Then again, most of the pupils who are qualified to obtain their first certificate or "license" to teach go out during the spring term to begin teaching. The percentage of pupils from the country has, however, gradually increased with each successive year.

In most cases the actual expense of attending the school to these pupils or to their parents has been merely nominal. Many of the girls come to the village and do housework in the mornings and evenings to pay for their board and washing. Others help to do this and pay but a small amount for their board. The boys are not so fortunate in securing opportunities to pay their way, as there is much less demand for their services. Many of those who live at a distance drive to school and board at home. One young man attended school last winter who drove a distance of twenty miles every day. At times when he was unable to do this he walked. Such cases are by no means rare. There is a boy of thirteen now attending the school who has daily walked a distance of nine miles, and has never once been tardy. Few pupils have actually paid full rates for board.

The patrons of the district have been exceedingly fortunate in their choice of school officers. The board has been composed of practical, intelligent men who have clearly seen and appreciated the value of school apparatus as a necessary factor in the equipment of a school. In addition to the ordinary school furniture the school is supplied with a Tellurian Globe, Yaggy's Anatomical Study, a good working set of wall maps, a box of geometrical forms, some elementary physical apparatus, and a school library, including an encyclopedia, an atlas, and about 30 volumes for general reading.

The cost of maintaining the school has averaged about $850 per annum including rent, apparatus, teachers' wages, etc. This represented an actual expense to the taxpayers of about $700, although the amount of tax raised considerably exceeded the expenses. The average annual tax levied on $1 for high school purposes amounted to .443 per cent. The average annual rate of taxation for district purposes for the same time was 1.04 per cent. But while the district treasurers have but a small balance on hand the high school has a balance of about $1500 in the treasury, which sum will be applied to the erection of a school house. It is computed that the rate necessary to defray the annual expenses of the high school after the erection of a suitable building will not exceed three mills on the dollar. This tax is so small as to be scarcely felt.

The course of study is the three years English course as outlined in the circular on Free High Schools issued by the State Superintendent. Experience has since demonstrated that the choice of this was wise. It is doubtful whether any other course would have been so well suited to the wants of the community. A course of study in a school of this kind should be based on several considerations:—1. The average age of pupils is lower than in the city schools. 2. Their preparatory training is not so good. 3. Most of the pupils remain in the school but one or two years, consequently there should be a judicious combination of practical and disciplinary studies, and the most practical should take the precedence. The high school work should be a natural development of the work done in the lower schools, and hence must be individualized in accordance with the conditions which prevail in each community. That the three years course, on the whole, fulfills these conditions and wants in this community is true. But it is equally true that it would be bettered

by the addition of a brief course in English literature and general history.

Last June a class of five pupils was graduated, one of whom resided in an outlying district. This was the first class to complete the course. A class of three pupils will probably graduate next spring. Since receiving your communication I have taken pains to learn positively of the number now in the school who are likely to complete the course. I find that about 30 per cent. intend to do so, and of these from 25 to 30 per cent. are from the country. It is my impression that as the benefits of a high school training become more apparent and more thoroughly appreciated there will be a greater influx of pupils whose purpose it is to complete the course.

It seems to me that the township plan has this great advantage over the district plan of organization — that it will in time affect a greater number of people, and will consequently be more far reaching in its results. In the limited period of this school's history many pupils have taken advantage of its opportunities. It has had the effect of developing a healthy and progressive school sentiment among the patrons, and has inspired better and more efficient work in the common schools. The desire to get all that it offers in the line of an education has taken hold of the pupils and they study hard in order that they may pass the entrance examination. They look forward with eager anticipation to the time when they are to be enrolled among its students, and are to receive the benefit of the instruction. The reports from parents who wish to send their children as soon as they are qualified to attend are very encouraging, and justify the hope that within a short time the enrollment will be largely increased both from the village and from outside.

J. F. Sims.

COLBY, WIS.

OFFICIAL DEPARTMENT.

TEACHER'S EXAMINATION FOR STATE CERTIFICATES, 1888.

I.

TIME AND PLACE OF EXAMINATION.

An examination for State certificates will be held in the office of the

State Superintendent at Madison, beginning at 10 o'clock A. M., Wednesday, Dec. 26, and continuing four days.

On Monday, Dec. 31, the standing of applicants will be determined and reported to the State Superintendent.

II.

BOARD OF EXAMINERS.

The Board of Examiners consists of Prof. J. Q. Emery, Ft. Atkinson, Prof. T. B. Pray, Whitewater, and Prof. E. A. Birge, Madison.

III.

CHARACTER OF THE EXAMINATION.

For the limited (five years') State certificate, examination will be had in the following branches: Reading, Orthoepy, Orthography, Writing, English Grammar, Arithmetic, Geography, U. S. History, Civil Government, Art of Teaching, Physiology, Algebra, Geometry, Physics, Physical Geography, English Literature (historical), and Mental Science.

For the unlimited (life) State certificate, examination will be had in the branches required for limited State certificates, with the addition of Botany, Zoology, Geology, Political Economy, General History, English Literature (critical), and Theory of Teaching.

Seventy per cent. is the minimum average standard for a *limited* certificate; and seventy-five for an *unlimited.*

Seventy per cent. is the minimum standard for each of the first grade branches, and sixty-five per cent. the minimum in English Literature, Mental Philosophy, Botany, Geology, Zoology, Political Economy and General History.

The *limited* State certificate will require three terms of four months each of successful teaching. The unlimited, seven terms of four months each.

Satisfactory testimonials of moral character will be required.

Applicants for *limited certificates* will be allowed trials at three consecutive sessions of the Board of Examiners in which to complete the examination. Applicants holding the limited certificate, or its equivalent, will be allowed trials at any two consecutive sessions of the Board of Examiners during the validity of the certificate held, in which to complete the examination for a *life certificate.*

During the limits herein fixed re-examination will not be required upon branches in which a satisfactory standing has been attained.

IV.

SUGGESTIONS TO APPLICANTS.

Examination in branches additional to those required for a limited certificate will be taken up on the third day — Friday, Dec. 28.

The evening examinations will be confined to the following branches: Art of Teaching, Geography, English Literature.

In examination upon any branch drawing may, and in Physiology, Physics, Botany and Zoology, will be required to the extent of correctly and creditably representing any objects described.

As a guide to such as may desire to review either of the following branches before examination, or are making original preparation in these studies, the following suggestions are made: Political Economy — Newcomb's or F. A. Walker's; Mental Science — Sully's Teachers' Handbook of Psychology; General History — Myers' Ancient and Myers' Mediæval and Modern History, or Fisher's Universal History; English Literature — Brooke's Primer of English Literature and Backus' Shaw's English Literature for the historical study; for the critical, Swinton's Studies in English Literature (Harper's). Candidates for the life certificate will be expected also to be thoroughly and critically familiar with Shakespeare's Julius Cæsar and with Emerson's Representative Men. Physics — Gage or Avery; Zoology — Packard (Briefer course), or an equivalent; Art of Teaching — Fitch's Lectures; Theory of Teaching — Sully's Teachers' Handbook of Psychology.

Stationery needed will be furnished by the Board.

The attention of all persons purposing to become principals of free high schools in Wisconsin, and who are required by law to pass special examinations to qualify them for teaching in such high schools, is especially called to the time and place of holding this examination.

Sec. 494, R. S., Ch. 325, Laws 1883, Sec. 1.

J. B. THAYER,
State Supt.

Madison, Wis., Oct. 15, 1888.

PROGRAMME FOR THE STATE EXAMINATIONS.

At the examination of teachers for state certificates, to be held in Madison, commencing Wednesday Dec. 26, 1888, by order of the

State Superintendent, the following programme will be observed:

Wednesday A. M.—Arithmetic.
" P. M.—Physics, Geography.
Thursday A. M.—Algebra, History of the United States.
" P. M.—Physiology, English Grammar.
Friday A. M.—English Literature (1), Geometry—Geology, Political Economy.
" P. M.—Mental Science, Constitutions—General History, Botany.
Saturday . A. M.—Art of Teaching, Reading—Science of Teaching, Zoology.
" P. M.—English Literature (2).

Penmanship and orthography will be judged from the papers in other branches submitted to the board. Orthoepy will be tested in connection with reading, in which the examination will be oral. Descriptive and physical geography will be tested in one paper.

Candidates are expected to note carefully the times set for the different branches, and to present themselves at the time appointed for the branches in which they wish to be examined.

J. Q. EMERY,
T. B. PRAY,
E. A. BIRGE.

EDITORIAL.

WHAT to do at the teachers' meetings is often a serious question with those charged with the administration of city schools. The old idea was that these gatherings were for the purpose of furthur drill for the teachers in the common school branches. With our present system of examinations for certificates such exercises have, or ought to have, become superfluous. There remain two objects which they may properly and usefully subserve: The first is to study and discuss the workings of the schools. Topics relating to this are properly introduced by reports from the various teachers, and relate to such matters as attendance, difficulties of administration, what it is wise to do with individual pupils, the detailed interpretations of the course of study, and so on. Under efficient and studious direction problems of this sort are always on hand and the study of them in teachers' meetings gives unity and vitality to the work, and tends to make it thoughtful. Beyond this lies the second object, to promote a genuine interest in and study of educational theory and practice. This purpose is thoroughly in harmony with the first, serving to give professional thought a wider scope and deeper significance. One way to

attain it is to pursue together systematically the study of some appropriate text, like Quick's Essays on Educational Reformers, or Fitch's Lectures on Teaching, or Sully's Teachers' Handbook of Psychology. An hour spent in considering the topics presented in a chapter of either of these books ought to be both inspiring and broadening to the teachers. Still another plan is to consider from month to month some of the topics relating to education which are attracting public interest. This is vitalizing and will beget a progressive spirit. If less systematic than the former it will more readily develop a genuine interest because of a sense of freshness and reality in the topics. Some educational journal may best serve as a guide to topics and their discussion. We call attention of principals to the value of the JOURNAL for such a purpose. In the last number, for example, such articles as English in Elementary Schools, Waste in Elementary Education, Science without Apparatus, Keeping Pupils Back, The Unit in Teaching, Commencement Pieces, etc., afford any one of them abundant suggestions for valuable discussions. This number also, and, we believe, every number of the JOURNAL, will be found to contain ample material of a similar character. The purpose of the study of them would not be merely to learn what is presented in the papers, but to talk over intelligently and practically the topics presented. Are there not nany schools which would be greatly quickened and benefited by such teachers' meetings?

THE examination in English for admission to Harvard College follows two lines—the candidate is required to write off-hand a respectable little composition, and, in the second place, to correct some specimens of bad English. The requirements are eminently practical and indicate clearly the lines along which intelligent training in this branch should run. Yet, Prof. Briggs, in a late number of the *Academy*, complains that the results of examinations are exceedingly discouraging. The themes proposed are so simple as to call for apology on the part of the authorities, and yet members who consider themselves good students fail upon them—not only upon the matter they write, but upon he manner in which they write it. The work is feeble, slovenly, incorrect and characterless. They do not know how to write English. The fault is in their school training—they are not efficiently taught to write English. The work in English in many schools overloads the mind of the pupils with abstract rules and erudite rubbish, while failing to secure simple, forceful and correct composition, because the teachers do not distinctly propose to themselves this latter end, and turn their efforts directly towards securing it. The second test is subsidiary to this, and contributes to it in an important manner. A foolish outcry against the exercise of correcting false forms has had great currency, to the serious detriment of the practical teaching of English. Correcting false forms is the best possible means of developing the critical habit of the pupil, and of all school habits this is one of the most important. The whole equipment of grammar and rhetoric with which the schools aim to furnish the pupil is, when practically viewed, only a critical instrument, by means of which he may be able to detect and avoid re-

rors and weakness. It is highly absurd to spend years in helping him to comprehend and retain the instrument, and then studiously avoid training him in the use of it. Correcting false forms give significance and value to the other training by revealing its utility, and should be resorted to persistently from the very commencement of systematic work. Not the accumulation of erudition, but power to use English correctly, forcefully and elegantly, is the proper end of school training in this subject, and when this is clearly understood we shall have less dishonest commencement pieces.

DR. PEABODY, in an article on "Boston Mobs before the Revolution" in the September *Atlantic*, gives proper emphasis to the fact that the leaders in the Revolution did not countenance the mob spirit which led to the Boston massacre, and to the throwing of the tea into the harbor. He says that Samuel Adams speaks of these proceedings as "high-handed outrages," and that the result of them was to alienate from the patriot cause many influential men who were moving with the rest to the impending conflict. He suggests a striking parallel: "The illegal seizure of the tea was in a certain sense parallel to the (so called) respectable mob that in the infancy of the anti-slavery movement nearly killed Garrison, and made the jail his only safe place of refuge. Had slavery triumphed that mob would at this day be the object and the subject of popular glorification." All this is fairly evident; and one who thinks the matter over will find it difficult to justify mob violence at all, unless he is willing to make the success of the measures favored by the mob the test of justification. But what have our school histories to say on the matter? We have examined six, and find only in one of them any expression implying censure of the means resorted to. The writers do not even stop to point out that these were outbreaks of an ignorant and thoughtless multitude, which the intelligent leaders of opinion did not countenance. On the contrary, the narratives give the impression that they were among the chief causes of the war. To a boy there is something singularly attractive in the story of the men disguised as Indians throwing into the ocean the tea which was to bear the obnoxious tax, and his feelings of patriotism twine about the lawless proceedings and glorify them. How unfortunate this is hardly needs to be pointed out. An opportunity to contrast the discreet and legal opposition of patriots like Adams, and Otis, and Quincy, with the outrages of the rabble, to show the harm which such acts do even to a righteous cause, and to enforce the inherent evil of mob violence as a remedy for wrongs, is lost; but this is not all, for the whole effect of the narrative is to justify the mob, and make it seem to be the chief agent in securing liberty. We greatly need wiser instruction in this matter, to help in checking the spirit of lawlessness and violence which is manifesting itself among us. The occasion of Dr. Peabody's article emphasizes still more the need of wiser teaching: The legislature of Massachusetts has voted a civic monument to Attucks, the leader of the Boston massacre mob, and to "his associate ruffians."

INADEQUACY of the salary of county superintendents is one of the causes seriously impeding the improvement of our schools. That the salary is inade-

quate in most cases will be apparent on comparing it with that of other county officials. In making the comparison it must be borne in mind that the duties of the office are very engrossing, in almost all cases demanding the whole time and energy of the officer; and further, that the duties of visiting schools and examining teachers necessarily involve considerable traveling expenses, which must be met out of the salary. Now, an inspection of the list in the Blue Book shows that no county superintendent in the State receives more than twelve hundred dollars a year, and but three so much as this; seven receive one thousand dollars, one nine hundred and ten, thirty-nine eight hundred, and the remaining twenty, sums varying from one to six hundred. There are no perquisites or fees connected with this office as with many others. Now a county superintendent ought to be a person of culture and ability; he should be not merely thoroughly versed in the studies in which he is to conduct examinations, including those for a first-grade certificate, but he should be a teacher of wisdom and experience—in some sense at least, an expert in school work, since he is called upon to inspect and supervise this. As a matter of fact, when the expenses are taken into consideration, almost any high-school principalship is financially more desirable than the office of county superintendent. How such an arrangement must work to lower the character of the superintendency will be apparent to any one. Candidates can of course always be had at the terms offered, but not such candidates as ought to be elected, men thoroughly qualified for the post and able to render to the schools and to the community the kind of service needed. Where a higher salary is paid, the community demands a higher type of man for the position, and such men are drawn to seek the office. Thus as a means of improving the efficiency of the schools, it seems eminently desirable that the salary of the county superintendent in many of our counties should be made more adequate.

OUR DRAWER.

READING CIRCLE WORK—SECOND MONTH.

ELEMENTARY. PAGE—pp. 70 to 136. HISTORY—to p. 80. PHYSIOLOGY—Chapters 4, 5 and 6.

ADVANCED I.—QUICK—to page 45. FITCH—Lectures 2 and 3. HISTORY—pp. 354 to 387. POLITICS—to chapter XII. II. SULLY—Chapters 5 and 6. BROOKE—Chapter 2. SWINTON—Bacon and Milton.

LOCAL HISTORY—A SUGGESTION.

[The following note was not intended for publication, but it is so timely with reference to Secretary Thwaite's paper that we venture to insert it.]

DEAR SIR:—I have subscribed for the "Journal of Education" through the Editor of the "Midland Journal." I feel that it is due you to say that the

Journal of Education has been a great help to me the past year, especially the editorial department and "Our Book Table." The discussion over Secretary Thwaite's paper must be productive of good. I wish that a historical society might be formed in every school. Last Spring such a society was organized by the young ladies of the Delevan high school. Two public meetings were held, at which papers, relating to the early history of Delavan, were read. Pupils were encouraged to interview the early settlers, and in this way much new material was obtained.

It is unfortunate that the pioneers of our state pass away leaving the history of their lives untold. School children are competent to gather information of this sort. Why not let them do it? It would be good discipline for them, and at the same time they would be accumulating facts that would interest the present generation and might be of great value to those that are to come.

At present there are quite a number of pupils, in this High School, engaged in writing essays on the subject, "Local History of Delavan and Vicinity." At the close of the term a prize will be given for the best essay. The contestants are required to obtain their material from old settlers, old letters, diaries, records, &c. On no account can they use material that has been already published. They are asked to give special attention to old settlers' accounts of the Indians, the location of their villages, their trails, their appearance, language, &c., &c.

Yours Respectfully,

DELAVAN, WIS. GEO. L. COLLIE.

MILWAUKEE LETTER.

CALL FOR MORE HIGH SCHOOLS — NIGHT SCHOOLS — TEXT-BOOK MATTERS — EDUCATIONAL LECTURES.

One improvement leads to another, in schools as elsewhere. It is less than two years since the new high school building was completed, and now the desire to have another on the south side and yet another on the west side, has become so great that the papers speak of it as a "clamor" and a "popular demand"; and it is confidently predicted by those acquainted with the educational needs and wishes of the different sections of the city that in the near future one or two more high school buildings will be erected.

The night schools were recently re-opened for the fall and winter season; three sessions per week are held; one class is engaged in high school work.

The miniature "text-book war" which agitated the school board and some of the principals during a few weeks in the latter part of vacation and early autumn, is ended, and book agents are less numerous than they were. Some important changes were made, the greater being the introduction of McGuffey's Readers. In respect to language books, two reports were made by the committee, and neither adopted. After a lengthy discussion, Long's Language Lessons for second, third and fourth, Swinton's new Language Lessons for in-

termediate grades and Swinton's new Grammar for seventh and eighth grades were adopted.

The lecture by Dr. Stearns, delivered at the State Normal School on Friday, Oct. 5, was listened to by a large audience composed almost wholly of teachers, school principals, and students of the Normal School, and was highly appreciated by those who heard it. His theme was "Class Instruction," and it was presented in a way to incite thought both as to the hows and whys of schoolroom work; a clear distinction was drawn between questioning to teach and questioning to test; the former is over-done in our modern methods of conducting so-called developing exercises; sharp and vigorous testing is valuable not only to give the teacher a knowledge of what the pupil has done in preparing the lesson, but also because the feeling of accountability which it engenders in the student makes him manly and self-reliant; and under it drones and laggards fail as they ought; the mode of testing determines the mode of study; class instruction as an educational method is popular chiefly because it is cheap; the teacher should see clearly what the pupil loses and what he gains by being instructed with others.

Several other educational lectures are promised. A. E. Winship, of Boston, is advertised to address the teachers of the city on Wednesday Oct. 24, on the subject "Old and New Methods in Education;" and in the course of popular lectures arranged by Rev. Judson Titsworth, of Plymouth church are two on educational topics, one on manual training and another on the kindergarten. One of these will probably be delivered by Col. Parker, of the Cook Co., Ill., Normal School. ICHABOD CRANE.

MATHEMATICAL SECTION.

THE PROBLEM IN BUSINESS ARITHMETIC.

$4,000. PLATTEVILLE, Wis., Feb. 27, 1885.

On or before Nov. 30, after date we jointly and severally promise to pay G. H., or order, four thousand dollars with interest at ten per cent. per annum from May 1, until paid. Value received. A. B., C. D., E. F.

This note is to draw interest at the rate 8 of per cent. after Nov. 30, 1885. (On back): Received, Oct. 20, 1885—$1,500. from three signers, jointly.

"	Dec. 19, 1885—	927.40	"	"	"
"	Sept. 18, 1886—	400.	"	E. F.	
"	Nov. 9, 1886—	600.	"	C. D.	
"	Feb. 11, 1888—	20.	"	E. F.	

How much does each of the three signers owe, March 27, 1888?

$4000. sum drawing int. @ 10 per cent. from May 1, 1885.
187.78 int. to Oct. 20, 1885.

4187.78 amount due Oct. 20, 1885.
1500.00 payment made Oct. 20, 1885.

2687.78	sum drawing int. from Oct. 20, 1885.
29.86	int. on this sum to Nov. 30, @ 10 per cent.
11.35	" " " Dec. 19, 1885, @ 8 per cent.
2728.99	amount due Dec. 19, 1885.
927.40	payment made, Dec. 19, 1885.
1801.59	sum drawing int. from Dec. 19, 1885.
107.69	int. on this sum to Sept. 18, 1886.
1909.28	amount due, Sept. 18, 1886.
400.00	payment made Sept. 18, 1886.
1509.28	sum drawing int. from Sept. 18, 1886.
17.11	int. on this sum to Nov. 9, 1886.
1526.39	amount due Nov. 9, 1886.
600.00	payment made Nov. 9, 1886.
926.39	sum drawing int. from Nov. 9, 1886.
102.52	int. on this sum to March 27, 1888.
1028.91	
20.00	payment made Feb. 11, 1888.
1008 91	amount due March 27, 1888.

This is the sum due the owner of the note according to the U. S. rule.

The equitable apportionment of the debt among the three signers is a much more difficult question.

On Sept. 18, 1886, there was due, principal, $1801.51; interest, $107.69.

A. B.'s share, principal, $600.53; interest, $35.897.
C. D.'s " " 600.53; " 35.897.
E. F.'s " " 600.53; " 35.897.

A. B. owes, March 27, 1888, $636.427, and the interest of $600.53 from Sept. 18, 1886 to March 27, 1888, 73.265. In all $709.69.

E. F. pays, Sept. 1886, all the interest due, $107.69, and $292.31 of the principal. He owes, March 27, 1888, $308.22 with interest to March 27, 1888, less payment made Feb. 11, 1888, $20. $345.82.

A. B. owes him $35.897, interest paid Sept. 18, 1888.
C. D. " " 35.897, " " " 18, 1888.

March 27, 1888, then, he owes $254.03.

C. D. Nov. 9, 1886, owes $600.53, plus accrued interest from Sept. 1886, $6.81.

He pays all the interest due on the note, $17.11. He pays on the principal, $582.89. He owes on the principal, $17.64. He owes E. F. $35.897 less $3.49, interest he has just paid for E. F. He owes E. F. then, $32.407. A. B. owes him $6.81, interest paid. C. D. owes also the interest of $17.64 to March 27, 1888, $1.95. He owes, then, $17.64 + $32.41 + $1.95 less $6.81. In all, $45.19.

A. J. HUTTON.

$$\left.\begin{array}{l} 4000 \times .1 \times 1\text{-}12 \times 5.6\tfrac{1}{3} = 187.789 \\ 4000 + 187.789 - 1500 = 2687.789 \\ 2687.789 \times .1 \times 1\text{-}12 \times 1\tfrac{1}{3} = 29.864 \\ 2687.789 \times .00\tfrac{2}{3} \times .6\tfrac{1}{3} = 11.348 \\ 2687.789 + (29.864 + 11.348) = 2729 \\ 2729 - 927.40 = 1801.60 \end{array}\right\} \text{Ordinary method of calculation to this stage.}$$

1801.60 × .00⅔ × 8.9⅔ = 107.69 to be deducted from E. F.'s to find part which bears interest.
400 — 107.69 = 292.31, the part of E. F.'s payment which bears interest.
(1801.60 — 292.31) × .00⅔ × 1.7 = 17.10, to be deducted from C. D.'s to find part which bears interest.
600 — 17.10 = 582.896, the part of C. D.'s payment which bears interest.
1801.60 × .00⅔ × 27.2⅔ = 327.493, int. Dec. 19, 1885 to March 27, 1888.
1801.60 + 327.493 = 2129.073 = amt. had there been no payments after Dec. 19.
(292.31 × .00⅔ × 18.3) = 35.66 = int. on E. F.'s payment to March 27.
400 + 35.66 + 20 = 455.66 = payments and interest on E. F.
582.896 × .00⅔ × 16.6 = 64.51, int. on C. D.'s to March 27.
600 + 64.51 = 664.51 = amt. of C. D.'s to March 27.
2129.073 ÷ 3 = 709.69 = share of each had there been no payments after Dec. 19.
709.69 = portion of debt for A. B. to bear.
709.69 — 455.66 = 254.031, portion of debt for E. F. to bear.
709.69 — 664.51 = 45.18, portion of debt for C. D. to bear.

They share equally the payment till Sept. 18, 1886. Had E. F. and C. D. paid nothing after Dec. 19, the debt would have been $2129.073, and the burden of each, $709.69; this last A. B. is to pay.

F. F.'s payments with int. on the part left after deducting the payments, is $455.66; he then has the difference between $709.69 and $455.66 (or $254.03) to pay.

C. D.'s payment with int. is $664.51, which deducted from average is $45.18.

IN THE SCHOOL ROOM.

SOME TEACHING DEVICES.

A LANGUAGE EXERCISE.—Set the pupils to writing a description of one of the pictures in a reading book or geography. Let two or three different pictures be assigned in the class, and when one reads a description let the pupils in the other sections find out to which picture it relates. Have another from the same section read and let them supply what has been omitted. For the next reader let the others find out what mistakes he has made, if any. Then allow the pupils to decide which of the descriptions is the best. By this device, great interest may be awakened, and eager efforts to be accurate and complete in the description.

IN ARITHMETIC.—Put the pupils upon devising for the class new problems out of the ones in the lesson. This may be done by making the answer one of the conditions for a new problem and calling for one of the former conditions as an answer. The exercise sharpens the wits of pupils and teaches them to study more carefully the relations of the data given in questions to the results required.

IN GEOGRAPHY.—Select on the map a certain area, a state or a part of a state or a group of states in this country, and let the pupils try to write out as accurate an account as they can make of its drainage. In a similar manner let them next determine from the map its chief business centers, and if possible

what the chief business of each is and why it centers at that point. Such exercises will make them intelligent students of maps.

IN READING.—Vary the work by having one or two pupils each day prepared to tell to the class something they have read. The teacher will have to select materials for such exercises, and should endeavor to make them interesting and profitable, without allowing them to become so long as to take up too much time. Again, let one pupil read a narrative for the class, and then let others try to tell it as completely as possible after one reading. Sometimes the teacher may do the reading that the class may afterwards tell what they have heard; but in general it is best that the pupils do it, and prepare carefully beforehand so as to do it as well as they can. Such devices make careful readers and attentive listeners.

IN SPELLING.—Have pupils prepare slates. Then repeat distinctly and but once the definitions of familiar terms and require pupils to write the word. This will give exercise in meaning of words as well as in spelling. 1. An article that holds flowers. 2. An article that contains ink. 3. The land where the Chinese live. 4. The present month of the year. 5. The day of the week. 6. A person who sells drugs. 7. A bird that can talk. 8. A fierce animal that roars. 9. The most useful of all metals. 10. An insect that chirps. Then reverse the exercise and call on pupils to read the words written and give the definition.

LETTER WRITING—GEOGRAPHY AND HISTORY.—Geography and History are studies peculiarly adapted to language work. For a review lesson in Geography, the class may become a band of imaginary tourists, each one reading a short letter which he has written upon some topic previously assigned by the teacher. For example, if the lesson is about Egypt, one pupil may write from Cairo, describing the manners and customs of the Egyptians; another may write from the summit of the Great Pyramid, describing the surface and scenery of the country; a third, from Port Said, his topic being the Suez Canal; a fourth may write about the Nile, giving an account of an imaginary voyage down that wonderful river; a fifth may describe the ruins of Thebes; while a sixth writes from the desert, explaining why there is so little rain in Egypt. In History, also, a vivid interest may be awakened by thus introducing the personal element, in accounts of discoveries and settlements, of battles and sieges. What child can read Holmes's poem, "Grandmother's Story of Bunker-Hill Battle," without a new and thrilling conviction that the patriots of '76 were real, living men and women, not mere impersonal characters in history? It is because the poet transports us back to the time and the place, among the people and the scenes that he is describing. Almost unconsciously the pupil learns to relate historical events in graphic style, if he has frequent practice in this kind of imaginative writing. He may, for example, be asked to write a letter from Salem in the olden times, giving some account of the witchcraft delusion; or from Valley Forge, relating the experiences of the army during that memorable winter; or

from the field of Gettysburg, giving reminiscences of the battle.—*S. E. Lockwood, New Haven.*

BUSY WORK.—In one room that I examined, the teacher had a bundle of rulers with inches marked upon them. These, she told me, she allowed the pupils to take, and they measured their desks, slates, books, cards, jackets, aprons, etc., placing the results upon their slates. This busy work was very pleasing to one of the trustees, and, indeed, its advantages are easily seen. In another room the teacher placed the letters of some word, she had in mind, here and there upon the board and asked the pupils to try to find the word of her thought. This device admits of many variations.—*Ex.*

SKETCHING.—Some of the astonishing results of French and German schools may be traced back to the efforts of both teachers and pupils, in sketching, that is, presenting objects in outlines on the board, on slates or paper. I may therefore be justified in speaking upon the importance of sketching. A sketch gives merely the essential outlines of an object and is usually done without artificial aids such as ruler, compass and measures. It represents the first total impression the form makes upon the eye. A person making a sketch has a clear conception of the totality of the object; he does not mean to waste his attention upon special parts of minor importance. Yet, it is not a futile impression he makes with his sketch, for a sketch necessitates a certain care in representing proper proportions, and a certain genetic order in which the lines appear. The art of sketching is sadly neglected in many schools, though it ought not to be so, if we consider that we cannot transmit to others the mental picture we have, unless we either sketch it quickly or laboriously describe it in words with allusions to things similar to it and familiar to the persons with whom we are speaking. It has been truly said: We do not know anything thoroughly unless we can make it clear to others. We may amend that by saying: We have no clear mental picture of anything unless we can represent it in lines on the flat-surface, or reproduce it "in natura." Most of our pupils are so situated after they leave school, that they must *see* more than hear. Sketching in school will teach children to see correctly. It aids the acquisition of correct knowledge as well as it makes teaching easier.—*Supt. Klemm.*

OUR BOOK TABLE.

A NEW DEPARTURE IN GEOGRAPHY.

LONGMAN'S SCHOOL GEOGRAPHY, by George C. Chisholm, Fellow of the Royal Geographical and Statistical Societies. (Longmans, Green & Co., New York and London; 320 pp., $1.05.) For sale by W. J. Park & Co., Madison.

This book is the fore-runner of a change which must speedily be effected in geographical teaching, and is itself a product of the movement for reform in England, which originated with the Geographical Society, but finds its chief

support in the establishment of professorships of this branch in the great universities. The move has yet to be inaugurated in this country, but indications that it is at hand are not lacking. We have not space to point out many of the valuable features of the work, but must be satisfied with indicating two or three. The brief introduction is devoted chiefly to physical geography, aiming to develop only those things which are of especial importance in determining industrial and political conditions. Thus we have first a study of the agencies at work modeling land forms, and the effect of these forms upon the habitability of the earth and the pursuits of men. Then, after a study of the oceans, the conditions determining climate are reviewed, and the bearing of this upon the forms of animal and vegetable life; finally the relation of man to this earth is considered and especially the conditions determining the growth and position of towns and the distribution of population. Thus a rational basis is laid for descriptive geography, and a system of references in the second part puts the young learner upon applying to the facts he meets with the principles in the introduction. This would be much improved by numbering the paragraphs and referring to these numbers instead of to the pages. The second part was not the dry, scrappy form, by which our texts foster the habit of verbal memorizing, but is a continuous and fairly interesting narrative. Topics are discussed in such a way that the facts are rationally associated together, and the intelligence of the pupil is kept in play. The manner in which natural forces, the forms and properties of the land, and historical circumstances have combined to produce existing conditions is kept constantly in view. Whether we look to the accounts of the general aspects of the country, of the principal towns, of the distribution of natural resources or the development of industries we discover in the text the same natural groupings into topics, and the same intelligent apprehension of the complex causes which have given rise to what is described. We have looked for a brief passage to illustrate the quality of the text, and take the following, from the account of the northern coal-fields, solely for its brevity: "In South Lancashire are clustered most of the towns engaged in cotton manufactures and the industries subsidiary to that (such as the making of spinning and weaving machinery). The principal of these are, besides Manchester, Oldham, Blackburn, Bolton, Preston, Rockdale, etc. Manchester, the center of all, is, as its name shows, an old Roman town, and was famous for its woven fabrics more than three hundred years ago. Sheffield, on the Don where it begins to be navigable, on the extreme south of Yorkshire, lies in a district rich in iron as well as coal, and likewise containing a kind of stone admirably suited for making grindstones, and hence has long been famous for its cutlery, as it is now also noted for its large plates of rolled steel used in building ships of war." A footnote to Manchester says: "It is situated at the highest navigable point on the Irwell, a tributary of the Mersey. See Introd., p. 61;" and another reference explains the name. The book is a text, without maps which must be found in an atlas. Its proportions are of course English, one hundred and twelve pages being given to the British Isles and seven to the United States.

—A GUIDE TO THE STUDY OF THE HISTORY AND CONSTITUTION OF THE UNITED STATES, by W. W. Rupert, (Ginn & Co., 130 pp.) presents a scheme of history topics with references to authorities and sources of information, for the first part, and for the second a brief explanatory and historical commentary on the U. S. constitution.

—SELECTIONS FROM RUSKIN, with notes and a sketch of Ruskin's Life by Edwin Ginn, (Ginn & Co., 148 pp., 40 cts.) is the latest issue in the Classics for Children Series. Besides two lectures on Books and Reading from Sesame and Lilies, it contains one on War and one on Work from The Crown of Wild Olives. The notes are brief but sufficient, and the Life an excellent introduction to the essays.

—ANIMAL MEMOIRS, Part I. Mammals, by Samuel Lockwood, (Ivison, Blakeman & Co., 317 pp.) differs in a refreshing way from the animal books now appearing in great numbers for supplementary reading. It is strictly a book of memoirs, sketches, anecdotes and studies of the lives of various mammals, from the mouse to the monkey. The author tells his tales in a delightful manner and with a full appreciation not only of their humor but also of their significance as studies of animal intelligence. Young readers cannot fail to be profited and interested by the book, which affords valuable supplementary reading for school and home.

—A SCHOOL GRAMMAR, by David Salmon, (Longmans, Green & Co., 15 East 16th St. N. Y.; 264 pp., 75 cts.) contains four parts. The first, Parts of Speech, is very elementary, seeking by analytic and synthetic exercises to make the young learner thoroughly familiar with the different parts of speech. The second, Classification and Inflection, is also abundantly supplied with practical exercises. The third treats of Analysis of Sentences, and the fourth of History and Derivation. The latter subject, too often neglected in American school books, is briefly but effectively and satisfactorily presented. The chief characteristics of the book are clear arrangement, brief statements and an abundance of practical exercises.

—TALKS ON PSYCHGLOGY APPLIED TO TEACHING, by A. S. Welch, (E. L. Kellogg & Co., 136 pp., 40 cts.) presents very briefly an outline of the old or descriptive psychology. It does little more than define some of the more important terms used in treating of mental operations. This is followed by four brief chapters on education, training the senses, reading, writing and spelling, and composition, grammar and arithmetic.

—POTTER'S NEW ELEMENTARY GEOGRAPHY, by Eliza H. Morton, (John E. Potter & Co., Philadelphia; 126 pp.) offers, by way of introduction, suggestions for a series of lessons preparatory to geography, and notes on each of the lessons in the book designed to aid and guide the teacher in presenting it. The text is simple and easy for children, and the plan of the book gives more than usual unity to the subject. As against these merits we set a certain lack of discrimination as to what is worth teaching, and a fondness for the striking which leads to introducing many things which are not true or not wholly true. The illustra-

tions of the book are poorly executed and some of them have little relation to matter in the text.

—ENGLISH COMPOSITION AND RHETORIC. Part II. Emotional Qualities of Style, by Alexander Bain, (D. Appleten & Co; 325 pp.,) is to the philosophical student a book of more interest than usual rhetorical treatises. It is indeed a study of the emotions, and the tracing of literary forms and devices to the principles of emotion underlying them. For one side of this work Mr. Bain had rare qualifications, such as a clear, logical and analytic mind, which made important contributions to psychology. These very qualities which make him a good philosopher, interfere a little with his appreciation of literature. There is hardly warmth enough in him. The dry light which his analysis throws on literature tends to wither, if it reveals, the sources of life.

—SOUND, LIGHT AND HEAT, by Mark R. Wright,—(Longmans, Green & Co., New York, 263 pp. 80c. W. J. Park & Co., Madison), presents in a clear and elementary way, in part inductively and by experiment, the more important principles of those departments of physics. The experiments are well described and the book is furnished with a good supply of problems.

—FIRST FRENCH COURSE; or Rules and Exercises for Beginners, C. A. Chardenal, (Allyn & Bacon, Boston, 257 pp.) proceeds in a direct and business-like way to teach French by rules and exercises, followed in an appendix by systematic grammar and extracts for translation. It seems a thoroughly practical and teachable book.

—THE TENTH AND TWELFTH BOOKS OF THE INSTITUTIONS OF QUINTILIAN, with explanotory notes, by Henry W. Frieze, (D. Appleton & Co., 294 pp.) is a revised edition of a well known text book, the text having been carefully corrected and the notes extended.

—FIRST LESSONS IN ENGLISH, by F. B. Greene, (Cowperthwait & Co. 144 pp.) is based upon the plans and methods in Greene's Introduction. It is an exercise book mainly and seems well adapted to introduce very young pupils to the study of grammar. In our judgement this ought not to be done, but if tried this book will be found helpful.

—Number 37 of the admirable "Riverside Literature Series," A-HUNTING OF THE DEER, AND OTHER ESSAYS, contains, besides the paper which gives title to the volume, "How I Killed a Bear," "Lost in the Woods," "Camping Out," "A Wilderness Romance," and "What Some People Call Pleasure," making, all told, a very satisfactory introduction to the writings of Charles Dudley Warner. It is needless to say that these lively descriptions, the quaint humor, the quiet pathos, and the out-of-door atmosphere of these pieces would captivate a boy.

—From E. L. Kellogg & Co., we have several little books for teachers. First HOW TO TEACH MANNERS, by Julia M. Dewey, which seems to us likely to be very helpful to teachers of young children who wish to interest them in this this subject. It's methods are simple, and the choice of topics excellent.—QUIZ MANUAL OF THE THEORY AND PRACTICE OF TEACHING, is of course, a

collection of questions on this subject for those who enjoy subjecting themselves to such processes. We have no partiality for books of this kind.—Of the TEACHER'S MANUALS, 12 cts. each, No. 7 contains Dr. Huntington's admirable and suggestive essay on UNCONSCIOUS TUITION; No. 9 R. H. Quick's HOW TO TRAIN THE MEMORY, a very helpful treatise which every teacher ought to know; No. 8, HOW TO KEEP ORDER, by James L. Hughes, contains admirable suggestions for beginners; and No. 10, FROEBEL'S KINDERGARTEN GIFTS, by Heinrich Hoffman, briefly describes the gifts and tells how to use them.

—Charles H. Kilborn, Boston, is issuing Select German and French Texts in convenient pamphlet form. Hauff's DER ZWERG NASE, and Weil's ALI BABA of the German Series, and of the French CHOIX DE CONTES DE DAUDLET have already appeared. Each is 15 cts.—Ginn & Co. issue THANATOPSIS and other poems by Bryant in pamphlet form, to accompany Lockwood's Lessons in English.—C. W. Bardeen, Syracuse, N. Y., issues MEMORY GEMS, selections of verse for memorizing, and THE SONG CENTURY, a collection of one hundred standard songs for home and school.—THE CHILD'S SONG BOOK, (A. S. Barnes) is composed of simple pieces for young children.—Homer B. Sprague's discussion OUGHT TEXT BOOKS TO BE SUPPLIED GRATUITOUSLY takes the affirmative. The more far-reaching reasons are, we fear, against the policy.—(S. R. Winchell & Co., Chicago.)

NEWS AND NOTES.

—Teachers' wages vary greatly in the different counties. In Ashland county for males the average is $65, for females $46. In Douglas $80 for the first and $44 for the second. On the other hand in Waushara the average for males is $28.56 and for females $22.60; in Vernon $29.38 and $21.98; in Walworth $48.20 and $26.87.

—Two hundred and thirty-three new school houses were built in the state in 1887.

—Miss Kate N. T. Tupper, formerly principal of the Academic department of the Whitewater Normal School, has been placed in charge of the Normal department of the Nevada State University, at Reno, Nevada, with a salary of $1850. This is the first provision for Normal instruction made by the state.

—Supt. Whitman, of Appleton, urges, in his report just issued, the establishment of a union high school for the whole city—the one now existing belongs to the Second ward only,—shows that over 76 per cent. of children between seven and fifteen in the city atttended the public schools, and makes the following interesting statement: "More than one third of last year's tax levy of the whole city was for schools and education; not another city in Wisconsin, or west of Ohio can show such a record. But on the other hand the statistics show that this city pays less *pro rata* for police power and support of poor, than other cities of same population." The course of study for the city schools shows that elementary science is taught from the fourth grade to the high school.

—Some very interesting statistics may be gathered from the forthcoming report of the State Superintendent.

Those referred to in the following items relate to 1887, as the figures for 1888 are not at hand at this writing: It appears that there were 408 children under four years of age enrolled in the district schools. The largest number reported in any county is in Columbia, 68. In the city schools but a single case is reported — at Ripon. This is doubtless owing to a closer administration of the law. That this attendance is a misfortune to the schools and the 408 children will hardly be questioned.

— There were in 1887, 258 district libraries in Wisconsin, and $4,291 was expended in purchase of books for these. In the cities but $1,904 is reported as expended for the same object.

— There were 136 Free High Schools in the state in 1887, with a total enrollment of 8,780 pupils. Of these 5,086 are reported as studying the sciences, and 1441 the languages, of whom 1229 were studying the ancient languages. These schools graduated during the year 710 pupils, of whom 451, or not quite two thirds, were girls. Attention has been repeatedly called to the large preponderance of girls in these institutions. The reasons for it are not far to seek, but it is certainly necessary to bring to bear all legitimate influences to hold a larger number of boys to the higher courses of study.

— The number of public schools in the state is not easily made out from the report. The summary of county reports gives 5977; but in some counties the city schools are included and in others they are not.

— Supt. MacAlister, of Philadelphia, has returned from his trip to Europe, and the *Ledger* of that city publishes an interview in which he gives some account of the English "Board Schools," which correspond to our elementary public schools. After speaking of the law creating them as the most important step for the improvement of the people ever taken by the government, he says of the country schools: "But the rural schools are very fine. Wherever you go you will find in the center of the village, a very pretty stone building and close to it a comfortable house which is occupied by the master. These are immensely superior to those of a similar character in this country. The appliances and appointments of the schools are excellent, but as a whole are not equal to those of our own."

— Of the English Normal Training Colleges Supt. MacAlister says: "I was greatly struck with the scope and character of the instruction given in these schools. The pupils are not received under 18 years of age, and all the work is professional in character and aims directly to fit them to become teachers in the Board schools. Great attention is given to the science and history of education, and, as the examinations are conducted by Government inspectors, the training is kept in line with every advance made in educational methods. The teachers employed in these schools are men and women of fine scholarship."

— The high school at Sparta has been making considerable additions to its physical apparatus, and expects to make still further purchases during the year. The school has a well equipped chemical laboratory, with a place for each pupil to work and apparatus for him to work with.

— We wrote, in an item for the last *Journal*: "The 'Wauwatosa' school board has just issued a new course of study," and went on to speak of the provision in it for instruction in elementary science in the lower grades. Now the printers changed the name to "Watertown." The Watertown schools have for a long time had instruction in science in the

elementary grades, and we hope before long to have an opportunity to lay before our readers some account of this work. Already many schools in the state have entered upon such instruction, and it seems likely that an account of the work done in some of them will be helpful to teachers desirous of adding such work to their own curriculum. The Watertown high school also has fair facilities for science work, which is done in such a way as to promote a scientific spirit among the pupils.

—At the opening of the school year is a good time to provide for some educational journal or journals which, by their periodical visits may give fresh interest to school work and new devices to help it on. We have this year made arrangements with several such journals and some of the best Magazines for clubbing rates, as will be seen by an advertisement on another page. We are often asked to recommend some other journal, which is not always easy to do, as we cannot judge certainly of the tasks and peculiar needs of our correspondents. We have placed a brief designation after each publication in this list to show its field of work, believing that this would be helpful to teachers in choosing for themselves. Sample copies will also be sent on application. Any subscriber to the JOURNAL, old or new, is entitled to the clubbing rates, and we shall hope through them to assist many in obtaining good and helpful reading. This is also the best time for those who are in arrears on their subscriptions to straighten up accounts.

—Requests have come to us that we again publish monthly the statement of Reading Circle work for the current month. We shall accordingly do so, and elsewhere will be found the scheme for November. The work is planned to begin with October, but readers will readily see what must have been the outline for that month.

—The irrational resistance to all changes in school work which prevails in many rural districts is well illustrated by Mrs. Allen's account which will be found on another page, of her effort to introduce good reading into one district school. It is this stolid immobility, which demands that the ways of this generation shall be exactly like those of the last, even to following their stupidities, that makes efforts to help country children so fruitless. The new Library Law provides an important agency for overcoming this resistance. When the school can offer to children good reading without expense to the parents, these barriers will be swept away and the dull homes be lighted up with intelligence and interest. By this instrumentality the schoool can come into the home itself, and bring enlightenment and refinement to the fireside of the most stolid retrograder. The school library is its most powerful instrument of progress.

—Mrs. Mary Cate Smith, formerly training teacher in the Milwaukee State Normal School, spent a few weeks in October visiting friends in Wisconsin. The students and former graduates tendered her a reception and had the pleasure of listening to her lecture on "Literature in Geography." Mrs. Smith has been employed for several summers in the Asbury Park School of Methods and has won high rank as a teacher of geography.

—Mr. Geo. B. Bergen, last year principal of the school in the National Home District near Milwaukee has resigned, though offered a handsome increase of salary to remain; he has taken a much more lucrative position in Chicago as office manager for a publishing house.

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PHYSICAL CULTURE IN PUBLIC SCHOOLS.

[An Address Delivered at the Wisconsin State Teachers' Association, at Eau Claire, July 5, 1888.]

LADIES AND GENTLEMEN: I have strayed some miles away from my usual work to talk to you on the subject of physical culture in the schools. I would desire to clear and narrow our field by saying at the start that I do not think that the public schools are merely institutions in which to teach children to read, write, spell, and manipulate the rules of arithmetic. And I do think, with you, that they are seminaries wherein the children should, at least, lay the foundations of fairly broad and symmetrical culture. The weight of unhappy circumstances, poverty, mischance, or congenital deficiency may hamper this or that child, or most children, and may prevent any high culture; but the schools, I do believe, should set out to do the best possible work, and should highly develop the fortunate few who can pass through the whole liberal school curriculum. If we do not agree on this as the proper function of the schools, we may as well forego the pains of any talk about physical culture; for why talk of physical culture where there is to be no culture at all?

DANGER IN CULTURE.

That much settled for the present, that there is to be culture in the public schools, and not merely education, let me say to you that there is danger in culture. This may be shocking to you, and you may deny that the highest evolution of our race can be anything but a beneficent process. Yet I think you will admit that the most highly cultivated races are not the most perfect. You will agree that they have paid a

terrible price for learning and loveliness. They have gained much, and they have lost much. They have attained the highest, but in some directions, they have sunk to the lowest. Great mental powers are commonly seen, in the highest races, to be quite too powerful for the frail caskets of flesh which enshrine them. Talent lacks the support of good bodies, as a rule. Early promises of our brilliant youth are commonly unfulfilled. Genius is simply an excrescence upon the face of society; it soon perishes in the individual by reason of bodily weakness. The sterility characteristic of the most cultured families seems absolutely to arrest the inheritance of the highest types of mind.

Aye, we pay dearly for our civilization. And this is according to the rule of things wild and tame. The wild potato, to take a homely instance, is a sturdy thing: it takes care of itself amidst rude surroundings, and it maintains its kind by the production of a vast amount of seed. But when artificial selection, guided, of course, by the cunning hand of man, has compelled the potato to change its habit, then it becomes prone to disease, and becomes, in truth, such a feeble organism that only the craft that created it can perpetuate it. The varieties of the potato *run out*, as the farmers say, and we are obliged to return to the normal wild type, sometimes, in order to produce, by hybridization, more varieties to run the same career of artificiality and decay.

Your remember that Lyman Beecher was of blacksmith stock. From his mighty loins have come what imagination! what eloquence! what poetry! His children were intellectual giants, surpassing himself. But mark the penalty for culture. What do you know of the young crop of Beecher's? Easy, cultured, indolent, intellectual life has done its work in a very short time. The Beechers have run out.

And what of great families like the Napiers and the Wedgewoods? We hear of no later offspring to make the tribes illustrious, simply because their ancient ability and culture and wealth have brought physical degeneracy. If it could happen that another Darwin should appear among them, it is not possible that he would be endowed with that great, powerful, bony frame which we know belonged to Darwin, still less is it probable that he would have the inherited strength to endure acquired disease a top of incredible and confining labors.

I mentioned genius a moment ago. It is like the tenderest and daintiest blooms of our primeval forest. I dare you to transplant the loveliest and earliest-blooming hepatica into your fine old garden-soil and in-

duce it to propagate itself from year to year. You cannot compass the problem by any horticultural device whatever. And raise me a crop of beech-drops in the garden, with the aid of what manures you please to use, and I will raise you a crop of bananas in Alaska. The wind-loved anemone will stay in domestication for a year or two, but then it seems to flit away to the woods again.

These pale and beautiful flowers are an efflorescence of the sturdy forest, and of that solely. They live only on material elaborated and prepared for them by the mightiest trees. Their almost worshipful delicacy is a fatal feebleness, unless it is in relation with the robustness of their natural protectors. And genius, I say, is like these blooms. It springs out of generations of strong men and women, but it lacks a sturdy physical basis for itself. Transplanted into the town, or into active life, it glories in its new surroundings, and, exciting admiration and astonishment, it seems to be meeting its kindliest fate. But, like the wild flower transplanted to the parterre, it is on the road to death, baked in the glaring sun, which reveals its beauties, overtopped and starved by weeds which bring no wholesome shade. I say this with some thought of Keats, and Burns, and Poe, and Rosetti, and Fechter, and a great crowd of geniuses who could not endure the very notoriety which comes with fame.

But what is this fatal weakness which goes with genius? We may not talk too long in metaphors: we must talk like butchers, and say plainly that the need of geniuses is more blood, muscle and bones. If our dear country may produce a genius, I pray only that he may have a body like that of Kit North, or Landor, or Hawthorne, or Blake, or like the poets of our fine New England circle. Let it be a body not absolutely capable of consuming in the noble fire within. Let it be, I pray, something like the grand form which enclosed Newton's wonderful mind, something like that which held Gœthe's soul. And in my prayers I do not forget the greatest genius of all,— the might genius of Shakespeare,— which dwelt in a grand form, inherited from a line of yeomen and butchers; and you know that not even London, nor wealth, nor fame, could break him down.

TENDENCY TO CITY LIFE.

I think we may well entertain something of dread for the finest minds of the coming generation because ours is no longer strictly a rural

people. Our homes and habits, and, worst of all, our notions of what is proper in the way of physical exercise, come mostly from the city. And we are no longer a rural people. Prof. Richards, of Yale, has recently dealt with the dry figures of the census in such a manner as to show just how much and how fast we are becoming a city people. I borrow his arrangement of facts. At the beginning of the century less than 3½ per cent. of our people lived in towns and cities of 8,000 inhabitants, or more; in the middle of this century 12½ per cent. lived in towns and cities as stated; at present, more than 23 per cent. live in towns and cities. In two generations, then, we have so changed. Eighty-eight years ago the men of this country, (all but a trifling 3.5 per cent.) were farmers, hunters, lumbermen, teamsters or Indian fighters; now, pioneer life scarcely exists at all; our frontier has disappeared; the red tribes are scattered, subdued, rotted and besotted; the forest has almost vanished; teaming across the country is at an end; and one fourth of our people actually live in small towns and cities. These cities are continually growing and attracting the worst and feeblest of the immigrants. And so rapid is their growth that I can name you fifty cities containing one fifth of the entire population of the country.

Has there been any gain by this conversion? *Urbs*, means a city; we have gained in urbanity. *Polis*, means, a city, also; we have gained in politeness and in polish. *Rus*, means, the country; we have lost much of our rusticity.

Has there been any loss? The American people has lost much of manly strength and sturdiness, of womanly patience and endurance, and much of health. Rubbing off rustic awkwardness, the American citizen has rubbed away the bloom of life and has robbed himself of many rural excellences. Gaining in refinement, he has become more or less effeminate; his calves are atrophied; the mighty muscles of his springing thigh are shrunken to flabby ribbons of degenerate fibre; he wears as big a hat as his grandfather,—possibly bigger,—but his collar is smaller, and it encircles a neck the contemplation of which can give satisfaction only to a hangman enthusiastic in his profession. His physical energy is great in proportion to his body weight; but his power of endurance is nothing.

Along with this goes a mental degeneracy. The modern man and the city man hath a quicker wit and sharper intelligence; but his power of observation has departed, and his powers of reflection are greatly

dwarfed. The city man is quick to receive and respond to impressions, and that is his whole intellectual life. His intellectual life is intense, but fickle and irresolute. His hatred is only for an hour; his devoted love is good for a week; his warm friendship lasts nearly a year.

The slow-moving, slow-thinking man of rustic blood and training comes to the city with his power of observing and reflecting, with his patience, his constancy and his modesty, and he moves like a god among the little creatures of the town. More than 85 per cent. of the bank-presidents and insurance presidents in New York and Boston were born in the country or in small villages, and were bred to simple country habits.

PHYSICAL CULTURE NEEDED.

I have said this much of city people in order that I might provoke some thought of the offspringing of city people. Remember that we are only just becoming a city people, and that I speak mostly for the future when I say that city born children have the defects of their parents much exaggerated. They are, and are like to be, a little undersized, with a tendency to become more and more dwarfed relatively to their age. The lean ones are very lean, if you please to observe, and the fat ones are flabby. Older people may tolerate indoor life fairly well, though they suffer from its pernicious influences: young people scarcely ever endure it without early injury, easily appreciated. Children must have exercise, in the open air if possible, and without it they quickly wither.

I say then at once, and without further preamble, that the more gentle, refined, idle and spirituelle children are absolutely entitled to some sort of gymnastics in school life. They need it for the fair development of their bodies; they need it for the performance of a fair amount of intellectual work in school, (although I am free to admit that the monstrous and unnatural development of the mind in feeble bodies is often quite capable of carrying a child through school at the expense of, and in spite of, his feeble body); they need it for the credit of the common schools which, as some say, spoil more children than they educate, and break down hopelessly much of the choicest clay that ever was moulded into human form.

Physical culture at school is not needed for village boys girls; for the children of farmers and minners it is even ludicrously superfluous. Children of this class are mostly merry colts; they obtain all the exer-

cise they need until, perhaps, the struggle for wages gives them much more exercise than they need. But the children of people in easy circumstances do not, as a rule, have enough exercise during the months of school, nor do they fancy rough plays involving exercise. They do not go far to school, or if they do, the long walk is a subject for lamentation. Their sports are always lady-like or gentleman-like. If they went home to do chores, or, assist in household labors, the matter would be different. But they don't. They go home either to study, or to ape the manners which they attribute to adults in the city. Even on farms and in farm-houses, the little errands and jobs appropriate to children are now performed to a very great degree by hirelings, or, at any rate, by adults. Almost every thrifty and large farmer's establishment has a servant girl or two attached, unless, as sometimes happens, the servant girl has the farmer's establishment. She came into agriculture in the same era with the cabinet organ, the piano, and the Brussels carpet, and I own that, in spite of her arrogance, I am glad to see her. She relieves the farmer's daughter from the cruel neeessity of being an uneducated drudge, but I do not forget that she also relieves her of light duties which might be salutary; and, if the servant girl permits the farmer's daughter to lead a life approximating the life of city girls, I would have her exterminated.

THE CASE OF THE LUNGS.

But let me turn away from this topic, and say something to you of lungs. Consumption probably causes one fifth of all the deaths of adults the world over. In our country, the proportion of deaths from consumption is probably far greater than one fifth of the whole mortality. Most of this consumption is based upon a morbid growth called tubercle. Tubercular consumption is probably caused by the development of excessively minute organisms in the living tissues, or, let us say, in the lungs, for that will fit most cases. The spores of these low organisms are almost omnipresent: possibly they are abundant in this room: surely, before the week is out, in church, or theatre, or store, or hospital, or sick-room, you and I will breathe into our lungs some of the seeds of this disease. Shall we acquire the disease? The question will be mainly settled by another: Have we in our lungs the congenial soil prepared for the germination of those seeds, or spores? or, to put it another way: Have we so lowered the resisting power of the tissues

that the malignant seeds can establish their horrible kind? This is only a sketch of recent pathology of tuberculous disease, but it will suffice for the present purposes.

I only introduce such a skeleton that I may enforce this doctrine: We cannot avoid contact with the germs of the disease, and we must therefore be all the more scrupulous to make our lungs an uncongenial soil.

Let me here refresh your memory of physiology by saying to you that one of your lungs is amply sufficient for your present needs as you sit before me. Even if you were to walk about and chat, you would not be using all your spare lung-room. It would need a waltz, a run, a romp, to bring into use every remotest cell of your lungs. So then, it is possible for a girl to sleep, to rise, to make a leisurely toilet, to ride to school, to recite, to dawdle away the remainder of the day, and to creep again into bed, without at all expanding the reserve air-cells. And why should they be expanded for girl or boy? Because any one of their countless myriads may be an hatching-chamber for the deadly seeds of consumption. I say therefore, almost as announcing a truism, that it is desirable that, more than once a day, the residual air-cells should be expanded by muscular exercise pushed to the point of quickening the respiration. By that means, acquiring valuable strength and priceless grace in action, children and youth may sweep out every idle air-cell, and, rousing it to high functional activity, which always brings high nutrition, may heighten its powers of resistance against noxious organisms derived from the air we breathe.

And just here I am tempted to talk to you of heart disease. I would like to show you that inactive lives produce weakened hearts, and that weakened hearts are unfit for this knock-about world. But that requires an hour's discourse, and I can only say that it is well for the youth whose heart has been quickened daily, or almost daily, by judicious exercise adapted to train it and develop it and to postpone the day when it shall break down or wear out.

THE CASE OF THE EYES.

I must make another very wide leap and say to you that, for divers reasons, chiefly related to luxurious and inactive lives, the most precious of the special senses is losing much of its efficiency. Cultured families and races are becoming more and more near-sighted. I will first state

rudely some important facts regarding this infirmity. Near-sighted savages are unknown, and the defect rarely appears in their offspring. Nearsightedness can scarcely be said to have an existence in rude peasants and pioneers. It is most common in races which have long had a literature and have long been a reading people, as among the Germans. It begins to develop in school. It is most seen in the later years of school life.

Why is this defect developed in school years, and in the children of the cultured races? In the first place, cultured people, and more particularly city people, do not have a horizon: they have no opportunity for distant vision: their prospect is greatly limited by buildings, by books and newspapers, by musical scores, by sewing and "fancy work," and by the work of the artist and the artisan.

But there's a cause much more potent, to elucidate which I must recall for you a little anatomy. The human eye is approximately a sphere with a dense, fibrous, limiting membrane; and this sphere has fluid or semi-fluid contents. Sight requires that the pictures of outward things shall be formed by the refracting apparatus in the front part of the eye-ball and shall be projected upon a sensitive curtain at the back part of the eye. The cornea and lens are like the front of a photographer's camera: the curtain at the back part of the eye is like the glass, on which he receives his images. Now you will agree that if the photographer places this glass plate a little too far back, he will receive upon it a blurred and imperfect image; and that is precisely the nature of the defect in a near-sighted eye.

Now I wish to inquire what will be the effect if feeble, relaxed tissue is incorporated into the outer tunic,—the fibrous outer layer,—of the eye-ball. Let us suppose,—and this is no strained supposition,—that a child is growing up in such a poor way that all its tissues shall be lax and feeble. There is, normally, a very considerable tension of the fluids and semi-fluids within the eye: they press outwardly, with some force, as if a foot-ball were pumped so full of water as to produce a little strain. Under this strain, which never ceases, night nor day, the outer layer of the eye-ball tends to yield a little, and it does yield. It yields of course, at the weakest place, and that place is at the back part of the eye. And I think I may say to you that we do positively know that this is one of the causes of nearsightedness. Insufficient bodily development leads to relaxed tissues: this to a certain pouting at the posterior part

of the eye-ball: this yielding carries backward, out of its proper position, that marvellous sentient curtain whereon the pictures of outward things are projected: and that state of affairs is nearsightedness. If the anterior portion of the eye-ball yields a little, also, as it sometimes does, then it bends the entering rays of light too much from their course and tends to produce a picture too far in advance of the retina, and even more increases the nearsightedness.

I trouble you with all this because I look upon this infirmity as a real infirmity. The popular belief is to the contrary, but it is true that nearsighted eyes are prone to disease. Aside from the perils of disease, the nearsighted person is more or less helpless and useless without glasses, and glasses are of themselves positive evils, and troublesome nuisances. They are never absolutely transparent, and dust, dirt, dew or minute scratches sometimes make them barely translucent. They are frail things, and have a singular and interesting propensity for being lost. Supposing them, in any case, to perfectly correct the refraction of the nearsighted eye at some certain distance, it is not possible that they should absolutely correct it at all distances, and they utterly fail to increase the range of vision.

I tell you therefore, that good physical development in early life is important, because, if for no other reason, it tends to give to the eye-ball its proper resisting power against the intra-ocular tension, and gives to the child one essential condition of normal vision, one indispensable requisite for healthy eyes. That is reason enough for being strong and keeping strong through the years of development; as we often say, the constitution is being fixed for good or ill.

PHYSICAL CULTURE SAVES TIME.

So full of work are the years of school life, so much are the teachers pushed for time, that I could not advocate here the introduction of any new work in the school room that would consume time. I advocate the introduction of systematic physical exercise in school life because I believe it will save precious time. If it does not, I think it would be fair to make time for it by cutting off studies which seem to me wholly useless or redundant. Let English grammar go first, if you please.

But, waiving all that, let me remind you that school work is much hindered in the early years by a vast amount of involuntary movement by the little children. These movements are not prompted by pure per-

versity. They are natural to all young animals,— kittens and puppies, boys and girls. They cannot be directly suppressed, but they may be greatly mitigated by giving to the motor apparatus of the children some other outlet. Children do not fidget and shuffle in dancing-school, in the pauses between the lessons. Harmonious muscular exercise for little folks disposes to muscular quiet for a little space, and I believe that school-room gymnastics will save more time than it consumes. I add this, that few of our children sing enough at school. You should take a hint from the kindergarten and combine school room gymnastics with music if there is any question as to whether we have or have not time for physical exercise.

I would like to remind you also that there are much more than seventy-five thousand children sick in the United States at all times. If these were so many children, with identity unchanged for many months, their sickness would not greatly interfere with school work. But the fact is that very few of them have chronic diseases. The army of sick children is recruited constantly by levies of troops whose enlistment is for only one, two, three or a very few days. To maintain the average number of seventy-five or one hundred thousand, hundreds and hundreds of thousands of children, of school years, are stricken down annually. In most cases they recover and go to school again, but they interfere very much with the efficiency of the schools, and they virtually consume time for all while they lose time for themselves. A fraction of this illness is inevitable; it belongs to the exanthemata, and the profession and the laity alike have settled down to the opinion that it is not worth while to avoid any of these diseases except scarlet fever. But the greater part of this sickness is avoidable, and, of that which is avoidable, far the greater part might be avoided simply by making the children robust. So far, therefore as physical exercise can do this, it will save time while it is saving health. I have already committed myself to the doctrine that it is superfluous for the rough and robust children of people in rude or rustic communities, but I believe it to be essential for the children of towns and cities.

I would like to dwell a little on the thought that whatever assimilates the school-life to the cheerful life which children should lead in and out of the school room, that thing, whatever it may be, is economic of time. For school work will not go on at its best rate unless is conducted in an atmosphere of cheerfulness. I think that by bringing children some-

where near the normal muscular life, physical exercise in the schoolroom will sweeten temper, lubricate the school machinery, and save time while it takes a little time.

NECESSARY FOR GOOD BRAIN WORK.

Out of this grows the thought that physical exercise may also save time by fitting brains to do their work at the best rate of speed. But this compels us to more than superficial discussion. Let us look into the subject a little curiously. The lowest and simplest living creatures have neither muscles nor nerves. They are composed of tissue which is irritable and contractile. By evolution this tissue appears in higher animals to have become differentiated: it has some cells which are more irritable, and some that are more contractile: it has muscles, and it has nerves. Then muscles and nerves in the earliest history of life were one. Recent researches show us that the nerves and muscles of the highest animals are absolutely continuous. The nicest microscopic study cannot make a dividing line. And Physiology, on all its lines of research, justifies the opinion that has been long held by physicians and gymnasts that muscular health and nervous health are related and connected.

There once prevailed doctrine very different from this. It used to be taught that the nervous system was a thing apart from the muscular system. It used to be taught, also, that the nervous system was an absolute monarchy, and at its head was a savage potentate who ruled without constitutional limit. Now we know that this pretentious thing which we call a brain is merely a family of nerve-centres which have developed remarkable executive powers, but are remarkably deficient in all other regards. We know that the nervous system is in fact a republic, with a very strong leaning toward state rights. We know that the aristocratic nerve-centers in the brain are, after all, only the hard worked servants of the outlying nervous apparatus, and we know that the outlying, peripheral nervous apparatus is absolutely continuous with the muscular apparatus.

And in the light of this doctrine it is no small thing if in the case of any child we compel or permit, for forty weeks of the year, a course of life which will induce partial atrophy of the muscles or even of groups of muscles. For the muscular apparatus is in such close relation with the nervous structures, functionally and structurally, that by so doing

we must perturb the whole great nervous system. Its workings will be altered as to rate and quality, and we cannot hope to alter them for the better by a wide departure from the normal.

And now you are on the road where the time will not permit me to go with you, to considerations and conclusions which will wholly refute those who say that by fasting, and mortification of the flesh, and biliousness, and leanness they propose to attain a state of holy intellectuality. They are on the way to become angular or flabby according to their temperament, on the road to be medicated and coddled, on the road to a general loss of energy, to lose control of self, to make unworthy plans and waver in their adherence to them. The attempt to be spiritual at the expense of the body, brings a foul breath and foul thoughts, and brings one to be of the earth, earthy. The natural and physiological way is better, with full development of all the body, not slighting the motor apparatus, with the whole republic at peace, active, yet balanced and unperturbed. For yourselves and your precious children I charge you to reflect that there is certainly no antagonism between mind and muscle; there is nothing intellectual in pallor nor in angularity, nor in muscles smothered in monkish fat: there is nothing scholarly about the scholarly stoop: there is no mental strength in bodily weakness: it is not possible greatly and continuously to force the workings of one department of the nervous system beyond the rate which is normal for all.

ESPECIALLY NECESSARY FOR GIRLS.

And all that is a doctrine which I am glad to be able to press upon you for the sake of the girls. Boys, with the exception of a few morbid specimens who should be at once preserved in jars of alcohol, are born gymnasts, and are, by necessity, obliged to move about more than girls. I dislike to hear girls lectured just because they are girls, but yet it is necessary to say that their nervous systems seem to be more vulnerable than those of boys. Much more than half the cases of nervous disease are found among female patients. Certain vague affections of the spinal cord are almost limited to girls. Ten out of every twelve cases of curvature of the spinal column, causing or caused by atrophy of spinal muscles, occur in girls. Neuralgias are more common among females. Hysteria is vastly more common among females, though it is a slander put forth by my sex to say that the complaint belongs only to

females. Insanity, and almost all sorts of mental alienation are commoner among females. But why call the catalogue when you are perhaps ready to admit that the girls are most in peril as to their nervous systems, and that they are most entitled to the prophylactic and the remedy which I have named.

NECESSARY FOR MORAL STRENGTH.

Related to the truth that physical strength brings mental and nervous strength is another truth which I would like to present to you, though briefly and imperfectly. It is that systematic exercise, (and there is none so systematic as gymnastic exercise), grandly develops certain moral qualities. I value it because it so greatly increases the force of the will in its exercise upon self. As regards others, the average man or woman has an abundant or even a superabundant volition; and acting centrifugally, the volition even of babes is sufficiently energetic. But it is a rare thing to find a stubborn, persistent man or woman who can bend about the volition to act upon self, holding conduct, with godlike constancy, to fore-determined lines of conduct. This power is oftentimes the whole secret of success in life, and the lack of this splendid power is, for many otherwise richly dowered souls, the whole secret of failure and defeat. Intellect and training come to naught if the purposes and plans of life waver and turn; but when stubborn volition is turned inward, and fixed purposes prevail, success is won in spite of the stars. Now I do not altogether affect to despise the attempt to discipline self, cultivate patience and strengthen volition by application to the extinct and highly inflected lauguages, or to mathematics, or to some catechism. It may be rational to take that sort of medicine and give it to babes. I will not presume to decide. But I own that I have greater faith in the greater efficacy of physical labor and prolonged muscular effort for this purpose. I do very much like to see boy or girl essay the performance of some physical task, beating down all love of unearned rest, glorying in the effort and triumphing in the growing knowledge that what was difficult is becoming easy. That is an exercise of the volition upon self that is eminently profitable in immediate and remote effects. From first to last, it is a valuable training of self and of all of self, save only those purely intellectual powers which must be exercised with the body in repose and with book or pen in hand.

Under such discipline patience grows with the pupil's growing

strength. Along with this comes that placidity and repose of spirit which lightens all labor and makes happy homes. It has doubtless occurred to you that there are two meanings bound up in our good English word *heartiness:* it implies warm human sympathies, and it implies health, strength and sturdiness. Capable of such union in one little word, these things are capable of union in fact and in actual life. Weakness, peevishness and invalidism: these are related. Health, strength and heartiness: these are related in fact and are correlated in actual life.

Recently, with the most touching earnestness, Tolstoi has pleaded with the world to learn the excellence of self-abnegation. You and I are nothing save as units in the great mass, says he. He bids you to throw away utterly the idea that the happiness of the individual is of any import to the race in the world, and he bids you to live only for your race. In that line of conduct only, is peace to be found. It is a sublime echo of the teaching of Buddha and of Christ.

But I beg you not to forget that the medal of life has an obverse and a reverse. The prosperity of the race cannot be much conserved by feeble units. Its destiny will not be well worked out by sickly and weakly priests, however intellectual, however spiritual, however devoted. I cannot believe that the moving forces of the world grow out of any other than a good, rich soil, and that soil is in a sturdy race of men and women. May it be yours to prepare the soil as you sow the seed.

Dan Milliken.

HAMILTON, OHIO.

CORRESPONDENCE FROM JAPAN—A JAPANESE SUMMER RESORT.

I have it in mind to tell the JOURNAL readers about a trip we made this summer to Nikko, the most famous resort in this country. Such a variety of weather, scenery and experiences, within a radius of 75 miles, perhaps, could hardly be found elsewhere. Nikko is situated in the mountains 70 miles to the northwest of Mito. By the advice of a friend we took the most direct route, even though it led us through a high mountain range. We started from Mito before five o'clock of the morning of August 17. As we passed through the streets of this city, some houses were just opening; and we saw many people making their

morning toilet, and many still sleeping under the mosquito net which is hung from the four corners of the room. Soon after leaving the suburbs, we came in sight of the grading for the railroad, which is almost completed to Mito, and passed alongside of it for a little way. From what we could see, it gave evidence of thoroughness and skill; and above all, it encouraged us to think that we should soon be in closer communication with Tokyo and Yokohama, and thus also with America. And, I want to add that the rail-roads of this country are almost entirely engineered, constructed, managed and worked by natives, who have evinced remarkable aptitude in this line.

We stopped half an hour for a little more breakfast at a pretty three-story hotel in Kasama, 15 miles from Mito. Soon after leaving that place, we began our ascent of the mountains. We wound around the peaks in the usual manner, and made quite a gradual ascent, except two or three times when the hills were too steep for the men to pull us up in jin-riki-shas, so that we had to walk. All along the way there were shady little booths, or tea-houses, where the weary traveler might rest, and refresh his inner man. About ten o'clock we crossed the highest point of the pass, soon after which the heat of the sun became too intense to continue. We therefore, stopped at a dirty hotel to eat our lunch, and to rest two hours or more, and before three o'clock resumed our journey. The country became more level: but the road was not very good, and the sun most of the time gave us the full benefit of its rays, so that our progress was slow. Once, in going up a small hill, the rear man man gave out, and almost let the occupant of his jin-riki-sha have a ride down hill backwards. We had to cross one large river in a flat-bottomed boat, which two men pushed across with long bamboo poles. After six o'clock we reached Utsunomiya, a large and pretty city on the line of the Japan railway, which connects Tokyo with the northern parts of the Empire. Here we found an excellent hotel with some foreign accommodations, such as chairs, table, food, knives, forks and price!

After a good night's rest, we started on our last jaunt of almost 25 miles to Nikko. The ascent of the road is so gradual as to be hardly perceptible. Almost all the way it is very beautiful and quite shady, as it is lined on both sides with large and high cryptomerias. Often the branches from both sides meet and form a canopy over the roadway; and occasionally two are bent over so much as to become almost one

tree over-head. Once we saw some professional beggars sitting by the roadside: they swung their bodies back and forth, gesticulated with clasped hands, and gave out a kind of wail. We also met the first foreigners whom we had seen for almost six months; and, although we were unacquainted with them, we came very near hurrahing at them! About one o'clock we reached our destination, weary and hungry.

We procured lodgings for ourselves in the shape of two neat rooms in the second story of a Japanese house, and made arrangements to take our meals at a foreign boarding-house near by. In our rooms we had one table and some chairs, but no bed. We had to sleep upon the Japanese *futon*, which is a very thick comforter; and, as we piled them four high, we had a fairly comfortable couch. Mosquitoes were not numerous; but the fleas, like the Greek troops on the plain of Castolus, "assembled in large numbers!" However, because we were generally pretty tired by night, and also used insect powder, we managed to get a good allowance of sleep.

Of course, one of the first duties was to pay our respects to the United States Minister, ex-Governor Hubbard, of Texas. With the officers of the legation, he spends every summer at Nikko. He is a worthy gentleman, and when he goes sight-seeing, in order to ride comfortably, he has his big arm chair fastened to two long bamboo poles; and thus, carried by four men, he goes in palanquin style. He is a very pleasant gentleman, and honors our nation.

Tuesday morning we were off before six o'clock for a trip to Lake Chuzenji, several hours' ride up the mountains. The four ladies rode each in a *Kago*, which is a kind of basket hung under a big bamboo pole, and thus carried on the shoulders of two coolies, one in front and one behind, with a third to "spell" them. We three men went horseback, one with a foreign saddle, and the others with Japanese packhorse saddles, which, I can assure you from experience, are by no means easy. Two women and a small boy attended the horses to take care of them. When we were all ready to start, the women called "shoo" to the horses, just as if they were driving chickens in America; and we moved! The native children along the road would greet us with *o hayo* (pronounced like "Ohio"), which means "it is early," and is the equivalent of "good morning." At first we had a comparatively easy road, and preferred to direct our own steeds, so that we could poke them along occasionally with our umbrellas. But, when we

came to rude bridges of faggots over a rushing stream, or to a rough and steep ascent by a winding path, we were willing that our horses should be led by the women and the boy. We saw some pretty waterfalls, one of which is said to be 350 feet high; also many large and high trees with long hanging moss. At a charming tea-house on the shore of the lake we rested awhile, and ate our lunch. On the return trip we preferred to walk the worst part of the descent; and, just before we reached Nikko, we were caught in one of those showers which come up so suddenly among the mountains. In fact, at Nikko, if one does not look out of doors, the sound of rushing water makes him think that it is raining all the time.

On the right bank of the river which flows through Nikko is an interesting place. Here are several hundred images of Buddha arranged in a long row. They are of different sizes, and evidently very old; for many of them are so weather-beaten as to be scarcely recognizable. But, wherever the face is visible, there is the same stupidly calm cast of feature which always stamps a Buddha. The exact number is unknown; "and it is believed that they always count up differently, however often the attempt is made, and even the expedient of pasting a slip of paper on each, so as to be sure that none has been omitted, is said to be useless." This expedient has given many of the images a very ludicrous appearance: for some of these paper-slips, which resemble court-plasters, happened to fall on a Buddha's nose, or eye, or lip, and make the old Hindoo look as if he had encountered John L. Sullivan somewhere in the state of Nirvana, or Massachusetts!

As we pass from the lower to the upper town of Nikko, we have to cross the aforesaid river. A few yards up the stream from the bridge on which we cross, is a large red bridge with a gate at each end. It is called "The Bridge," and is kept closed, except to the Mikado and to pilgrims. For the latter it is opened only at the regular time of the holy pilgrimage to the sacred places in and about Nikko. It is estimated that every year about 10,000 people make this pilgrimage.

Nikko is especially famous and sacred, because it is the burial-place of Iyeyasu and Iyemitsu, the first and third of the Tokugawa (the most celebrated) dynasty of Shoguns, or Tycoons. Both held power and died during the seventeenth century, and were buried with great pomp at Nikko. The sacred enclosure which contains the tomb contains also a number of arches, gates, balustrades, court-yards, temples and other

sacred buildings: and the tomb is in the midst of the woods upon the summit of a hill. The mansoleum of Iyeyasu is more extensive and more magnificent than that of Iyemitsu, and is the finest in the Empire. I can not begin to describe it properly: but I shall try to tell of a few especially striking features.

First, as is always the case at a Shinto temple, we pass under a large *torii* (arch), which is formed by a horizontal pillar resting upon two perpendicular ones. In this case the pillars are of granite; and the diameter of each is three and a half feet. We pass along a stone pavement, which, by the way, is laid in all the court-yards; and after paying a fee of 18 *sen* (cents) per head, ascend a few steps and enter the first gateway. In four niches are statues of gods, or monsters; and the gateway is covered with frescoings and carvings of animals and flowers. The court-yard beyond is enclosed by a bright red timber wall, and in it are several store-houses containing various holy utensils, treasures and relics. Here is also a gigantic tree, which is, *of course*, "the identical tree which Iyeyasu was in the habit of carving about with him in his palanquin, when it was still small enongh to be planted in a water-pot." Near the tree is a stable "for a sacred white pony, kept for the use of the god;" at least, the guide says so. But the pony, presumably in the flight of time, has grown into an old nag: and its color, probably on account of the corrosion of the atmosphere, has become a dirty bay! If we pay a small boy a cent or two, he will let us feed the horse some beans! Just beyond is a granite basin containing holy drinking water. This basin is so carefully adjusted, that the water, led by a series of pipes from the hill behind, "bubbles up and pours over each edge in exactly equal volumes." Adjoining this is a building in which is deposited a complete collection of the Buddhist scriptures. These are in a very large and heavy octagonal revolving case: and, if we can only push that around one revolution, our complete salvation is assured. Inasmuch as two or three of us could with difficulty move it, we realized that it would certainly be a salvation, not of faith, but of works!

Another flight of steps leads to another court, which contains a large bell, bell-tower, three candelabra, and many iron and bronze lanterns. Again ascending we come to the "Beautiful Gate" and its long cloister, both of which contain such magnificent ornaments as to baffle description. This gate has one pillar with the pattern carved upside down, "lest the whole structure, by being too perfect, should bring misfortune

on the house of Tokugawa." In the next court are several minor buildings together with the oratory and chapel of Iyeyasu. Now we must remove our shoes, and present our tickets; and then we may enter the oratory, which contains one large public room, and two small private ones. Passing through the large room, which contains the Shinto shrine, and descending two steps, we are in "the stone chamber." Beyond this is the chapel, or "holy of holies," into which only priests are admitted. After we have rested awhile, and admired the magnificent adornments, we pass out; and, after putting on our shoes again, turn to the right. We throw a cent to that fancifully dressed woman in the building over there; and she "dances" for us, or rather goes through a series of quiet and graceful motions. We pass out a gate, over which is a fine carving of a sleeping cat, the work of one of Japan's most famous sculptors, who was left-handed. Then a stone gallery and more than 200 stone steps lead up to the tomb, which in plain but pretty. On a table in front stand an immense bronze stork with a brass candle in its mouth, a bronze incense-burner, and a vase with artificial lotus flowers and leaves in bronze.

After seeing the mansoleum of Iyeyasu, there is not much of special interest in the mansoleum of Iyemitsu, except the images of gods and monsters. Two gigantic wooden figures, painted red, represent great muscular development. The god of wind is painted green, and carries on his back a long sack tied at each end, with the ends brought over his shoulders. The god of thunder, who is painted red, holds a thunder-bolt in his right hand. These images remind one quite a little of the ancient representations of Aeolus and Jupiter Tonans, and naturally suggest again the remarkable similarity which is traceable between the mythologies of different peoples. In the short space of one year I have heard enough about Japanese myths and superstitions to realize, that the thorough student of comparative mythology must not neglect this country.

One noon, when we were returning, tired out by a tramp through Iyemitsu's mansoleum, we met W. N. Whitney, M. D., the interpreter of the United States Legation. He said that he had just obtained a permission to visit the Emperor's deer reservation up in the mountains, and asked us to accompany him. Such an opportunity was not to be lost; therefore, after snatching a little lunch at the hotel we were ready. The doctor, in order that his baby might go, improvised a *Kago* by

hanging a little hammock under a bamboo pole; and the gentlemen of the party helped him carry it. I had ordered a pack-horse to follow us as soon as possible, so that the ladies might rest themselves when they became tired of walking: but no horse could be found, so that Dr. Whitney's, which soon caught up with us, had to do duty for all the ladies of the party. But as soon as we reached the gate of the reservation, the horse had to be tied outside; for only foot travelers could enter. For awhile we followed a good path: but soon we struck off into the unbeaten tract; and a native had to go forward with a sickle to open the way for us. We climbed up and around through the wet grass; and five times we had to cross a rushing brook upon stones and branches of trees. Finally we reached two pretty water-falls, and rested awhile. During the descent we roused one stag, who showed himself for a few minutes, and then darted off into the thicket. I was told that there were only eight deer altogether in the park. When we reached our lodgings, we were bedraggled and weary; but then we had been the first this season to enter to Mikado's deer-park!

The beauties of Nikko have not been fully or fittingly described; but, not to weary you too much, I must hasten to tell you about our trip home. We left Nikko early in the morning of August 30: and this time we thoroughly enjoyed the ride down that beautiful road to Utsunomiya. About five miles to the south of Nikko we noticed a like pretty road converging to the right. This is the road "which used to be followed by the Mikado's envoy to the tomb of Iyeyasu on the occasion of his visits in the fifth month." When we reached Utsunomiya, we determined to go about 25 miles farther around in order to avoid that hard ride through the mountains; but in the end we did not fare very well. However, we treated ourselves to a railway ride of 20 miles. Withal it seemed quite delightful once more to see the bustle of a station and to hear the noise of a railroad train; and it was quite natural to receive baggage "checks," (they use the English word.) There were boys running about in American style to sell newspapers, ice and pears: and one boy carried flat rectangular boxes, of which he sold so many as to arouse my curiosity concerning their contents. Soon I caught his cry of "*bento, bento, sau sen,*" and thus learned that he was selling a box of lunch for three cents.

We left the train at about five o'clock, and wished to make a town twelve miles distant for the night: but, as the road was very bad, and

it began to rain hard, we had no resource but to stop at Yuki, only five miles away. However, we found a neat hotel, and rested fairly well. The next morning we rose early, so as to make Mito as soon as possible in the afternoon. But that day, by the old Chinese moon calendar, was the 210th day of the year, when there is certain to be a severe storm. And sure enough the wind blew fearfully, and the rain fell in torrents. Our jin-riki-sha men could scarcely pull us; and at times it seemed as if we should certainly be blown over. We had to cross one river twice by ferry; and it was with great difficulty that we could stand up in the boat. Thus our progress was necessarily very slow; and twice we took a relay of fresh men. At two o'clock it cleared off: but the road was still bad, so that we could not travel much faster. Darkness came on about seven o'clock; but the stars soon came out to cheer us a little. Finally, after eight o'clock, several hours late, we reached home. We found the mail from America waiting for us; and the Christian believers were soon on hand to give us a most cordial welcome. After reading our letters, and glancing over the papers we retired,—to talk in our sleep about "a muddy and steep place," and to dream of riding in jin-riki-shas with some of our American friends through the streets of Chicago.

E. W. Clement.

MITO, JAPAN, Sept. 15.

THEORY AND PRACTICE.

HIGH SCHOOL COMMENCEMENTS.

It is proper that a high school should have public commencement exercises — the best within its power. A young person who has passed creditably through the primary and secendary schools is entitled to some recognition. A satisfactory completion of one of our modern courses of study implies no inconsiderable amount of hard work well done, implies the end of one epoch of the pupil's existence. The graduate is passably equipped for life if this terminates his student career; he is well prepared for higher education if circumstances favor progress in that line. The audience make a public testimonial of their appreciation of his efforts, that is as gratifying to the recipient as it is easy to the giver. Moreover, the exercises are of a high order of disciplinary value. Too much of school life is isolation from the world, is unreal. A public ap-

pearance preceded by careful thought and training is a tonic to the average pupil. He feels that he has done his best and he takes a certain pride in his work. Probably he realizes its crudities but at the same time he feels that he has thought hard and has probably said at least one thing well. Now, brought face to face with the people, seeing encouraging and sympathizing faces of friends mingled with the cold and critical ones of those less interested, his whole nature is roused and all his faculties stimulated to their utmost.

Again, the whole occasion is a powerful incentive to pupils of the lower grades and serves to bring back into the ranks of school many a one whose interest has waned, besides encouraging parents to additional efforts to keep their children in their places. The source of trouble and severe criticism is that teachers and the public generally expect too much. Demosthenes was not an orator at eighteen; Webster did not move the world before he entered college; Darwin's profound thoughts were not uttered by a smooth-faced youth; George Eliot did not write Romola in the bright days of incipient womanhood. One cannot get and must not expect the clearness of an Arnold, the weight of an Emerson nor the studied originality of a Browning from him who was but yesterday a child. Our graduates have ideas of their own suited to their years, and their training should have given them power to express those ideas clearly and forcibly and to deliver their productions in a graceful and easy manner. In the direct preparation for this event the teacher should keep himself in the background, and still it is perfectly legitimate to encourage thinking, advise here a change, suggest a new phrase there, to criticise the weak spots and, in fact, to treat this as he does any other school exercise. This may all be done without in the least impairing the originality of the performance.

The public schools are not lathes from which are turned a series of beautifully rounded sticks of exact uniformity, overlaid by the teacher with a veneer that wholly conceals the original material. We cannot, then, expect a sameness here. There will be good work and work that is not so good. The temptation is strong to bring all to the same level, but the practice is wholly wrong, and can but react to the injury of both teacher and school.

Reason would say that occasionally pupils are found who should be excused from public appearance. There are timid natures to whom commencement is a positive terror and productive only of evil. But,

in general, it would seem that all should appear. No one is fit to graduate who cannot write decently on a suitable topic. The training for it is not confined to the few closing weeks of the Senior Year but extends over the whole course.

Let us believe in Commencements and have them. But let them be simple and helpful, and above all things, sincere. Honest effort, however futile, will be appreciated, while deceit and hypocrisy, sure of ultimate detection, can bring about nothing but disaster.

C. H. Sylvester.

WHITEWATER.

FOR OPENING EXERCISES.

During the presidential campaign the pupils of our school have been learning by means of our opening exercises how the president is elected. On the morning of the caucus of one of the political parties, caucuses were discussed by the school, led by the principal. Also on the mornings of the county, state and national conventions each was discussed in turn.

After all the national conventions had been held the candidates of the different parties have been mentioned and the leading features of the the platforms of each given. These points were passed without discussion of merits.

On election morning the subject is again renewed and the matter of voting for electors is especially dwelt upon. Attention will be called later at the proper dates to the voting of the electors and the counting of votes by congress. Finally the matter will be reviewed and discussed as a whole.

Another profitable exercise of an entirely different character may be gotten up from "Noted Names of Fiction" from Webster's Unabridged Dictionary: for instance, by putting to the school such questions as these: "What city is the 'Athens of America'?" "The Modern Athens?" "What is the 'City of Magnificent Distances'?" "The City of Flour," "The Flower City?" "Who was the 'Sage of Monticello'?" "Who was 'Mad Anthony'?" "How did the term 'Dixie' originate?" "By how many appellations is the city of Boston known?" etc., etc.

Allen B. West.

REEDSBURG.

COMMENCEMENT PIECES.

ED. JOURNAL: The article in Our Drawer in the Oct. number of the JOURNAL on "Commencement Pieces" brings to mind the discomfort I felt in listening to the unnatural efforts made by a class in one of our high schools last June. I felt some plan might be devised that would give better results with less of worry and nervous dread to pupils and teachers. I thought of this plan: During the fall and winter months let the graduating class be required to do some literary work each month. Let this work be an essay, a review, a discussion, a topical recitation, anything that would do for a graduating exercise. This work should be carefully planned and closely criticized. A month will give sufficient time for a paper and not take too much thought and time from other work.

In April let the several papers be placed in the hands of a committee of teachers who shall select the one from each pupil's papers that seems to contain the best subject matter and literary work. Let each pupil carefully revise and perhaps enlarge the selected paper, and use it as a graduating exercise. The spring term could then be spent upon the valuable studies found in the course. As it is usually arranged the the spring term amounts to but little beyond a worry over a graduating essay with very questionable results. *XX.*

EDITORIAL.

STURDINESS in physical life is what Dr. Milliken urges that every boy and girl should take care to gain early if possible; and his warning as to the dangers besetting the vigor of those who grow up in cities is none too extreme or too earnest. Teachers in city schools especially should read and consider well the suggestions in his article which we print in this number. It is almost as necessary to urge the cultivation of mental sturdiness. There is quite too much cossetting in modern school work, too much doing for pupils, making the way smooth and easy. It would in many cases be wiser to try to tone up the pupil's mind to earnest endeavor. If he is kept in right relations to his work he will not wish much help, he will rejoice in doing hard things, as he does in his sports. The truth is that teachers and pupils need more generally to recognize the truth that the difficulty is the opportunity. Here is the chance not merely to show strength and skill but to get them. To put this sort of spirit in the pupils is the highest art of teaching.

THE Summary of the Milwaukee School Report shows that of the average enrollment in the city schools but a trifle more than two per cent. is found in the

high school. This means that more than ninety-seven per cent. of the pupils in the city are in the elementary grades; and as the ratio is permanent it means that this large per cent. receives only elementary training. But this is not the most striking feature of the summary. There are eight grades below the high school, and below these are the Kindergartens. Now it appears that only seventeen per cent. of the total enrollment is above the fourth grade. This grade finishes the Fourth Reader; in arithmetic it has learned the four fundamental operations, federal money, part of compound numbers, and fractions having one for a numerator and two, three, four, six and eight for denominators; and in geography, besides the introductory work, has studied the two Americas in a general way. This statement of the summary must be carefully interpreted or it will lead to wrong inferences. Assuming that the fourth grade completes half of the elementary training, it is manifest that if all enrolled finished the whole course fifty per cent. should be found above it. Two thirds of the pupils in the schools therefore do not advance beyond the fourth grade. Another fact shows that this estimate is not far from the truth: the enrollment of the fifth grade is almost exactly one fourth that of the first. When these facts are for the first time brought to the notice of any one, he is likely to ask, "Is this then the outcome of our dream of universal education, that two thirds of our people receive no schooling beyond fourth grade work?" But it is of more practical importance to ask the bearing of such facts upon school work. They clearly emphasize the necessity of making the lower grade work as useful as possible to those who go no further. Pupils leaving school at this point probably have a fair command of the three school arts—reading, writing and arithmetic, so that they can use them in daily business; but they have had very little done to broaden their minds and awaken in them an interest in the things of the understanding. Because up to this stage it is not possible to do much in these lines is certainly no excuse for doing nothing. The things that can be done are chiefly in the way of oral instruction about things, elementary science; reading the history of their own country; and such an amount of useful supplementary reading as they can be induced to undertake. Surely the importance of what the school can do in these lines is made apparent by the figures we are considering. Then as to the remainder of the elementary course, are we not forced to ask ourselves how much of it is really necessary and profitable? Most of the people who leave school at this point can and do write very well. The course requires those who go on to continue for four years more drilling in these branches; but all the studies compel them to read and write incidentally; is the gain from these special recitations commensurate with the time given to them? If the further course were enriched in matter would this not hold to it a larger number of pupils? These problems need careful study.

A MECHANICAL view of teaching leads the instructor to confine his efforts closely to what is laid down in the course of study. His contact with his pupils is purely official and formal—prescribing tasks and seeing that they are properly

performed. These tasks are instrumentalities for fashioning a pupil into what he ought to be, and for furnishing his mind with what he ought to know. He is but clay in the hands of the potter, or if more refractory material, still simply crude material to be molded according to a prescribed pattern. There is, however, another view of education, which considers the pupil as an independent individual, with peculiar tastes and inclinations, who is to be helped to make of himself what nature designed he should become. Some things to which he has no inclination are to be required of him as a discipline and a preparation for life; but a good deal also is to be done from genuine interest and inclination. As a matter of fact it is those things which are done with genuine interest and from self-prompting which most profoundly affect his subsequent life. The other enforced training will give him certain arts and aptitudes, but this inward impulse will determine to what use he will put them — what manner of man he will be. The teacher will often do the highest service to a pupil by helping him to teach himself in the lines in which a genuine interest is leading him. In early life these interests are often fickle and uncertain: the mind is as it were feeling about to find what there is in life to which it is adapted. While an interest lasts, however, it is an inspiration and a source of power. To encourage it, and assist the pupil in gratifying it beyond the demands of a recitation, is to quicken his intellect and give him a taste of the real pleasures of work and of knowledge. This high service can rarely be rendered by one whose thought is narrowed to what is prescribed in a program, and whose relation to the pupils is purely official and formal. The inevitable tendency of organized public education is to emphasize the formal work, which ought not to be neglected, to such a degree as to obscure the importance of the other, and to change the relation of the teacher from the vital one of a guide and helper to the formal and sometimes hateful one of a taskmaster. There is only one way to escape from this tendency — for the teacher assiduously to cultivate higher views of his calling, and to make one of his constant aims the promoting of self-education among his pupils.

PATRONIZING home talent is often carried to a pernicious excess in appointing teachers. The evil is especially apparent in filling the subordinate places in schools of the smaller cities. Several causes lead to it: such teachers will work for lower wages because they can live at home; local politicians are gratified by it as well as the families of those appointed; and school pride is flattered by having "our graduates" in charge of most or all the departments. But the consequences are bad. A dead uniformity of work results, due to the mechanical copying of methods and processes by teachers who have all themselves been subjected to the same training. New ideas and fresh impulses are needed from without to quicken the system. The effect on the selection of teachers is also deplorable. Appointments are then made in consequence of local "influence," and influence has slight relation to ability and fitness. Thus among local candidates the capable are often passed by and the inefficient are appointed, to the great injury of the schools and the destruction of the right ideals. More-

over, inefficient teachers who are appointed through "influence" are protected by the same force. It is exceedingly difficult to get rid of them without begetting strifes whose consequences may be very far reaching. How these conditions hamper the principal or superintendent in efforts to improve the schools must be apparent to every one; and yet they prevail to a greater or less extent in almost all our communities, but to the greatest extent where only local teachers are employed. The remedies for these evils deserve careful study. In the first place it is every way desirable that some teachers not graduates of the local school should be employed. Further than that, such rules of appointment should be developed as diminish as far as possible the element of "influence" in securing places. The public schools are not designed to furnish places for any persons, however deserving. The interests of the children, which are the interests of the whole community, should alone be considered in making appointments to positions in them.

OUR DRAWER.

READING CIRCLE WORK—THIRD MONTH.

ELEMENTARY. PAGE—pp. 137 to 186. HISTORY—to p. 113. PHYSIOLOGY—Chapters 7, 8 and 9.

ADVANCED I.—QUICK—to page 95. FITCH—Lecture IV. POLITICS—to chapter XX. HISTORY—p. 420.—II. SULLY—Chapters 7 and 8. BROOKE—to p. 68. SWINTON—to p. 146.

A HELP FOR LOCAL HISTORY.

EDITOR OF WIS. JOURNAL OF EDUCATION: The bibliographical note to my paper on Local History, published in the JOURNAL for November, was written before I had an opportunity of examining a convenient leaflet—"Outline Studies in the History of the Northwest," prepared by Frederick J. Turner, A. M. It is published by Charles H. Kerr & Co., Chicago, at the modest price of ten cents per copy, and is a carefully prepared and most timely bibliography of the general topic of the Northwest. Wisconsin teachers who propose to go into the study of history will find this leaflet a useful companion in their preliminary work.

REUBEN G. THWAITES.

MADISON, WIS.

QUERY BOX.

1. Is there any hereditary office in the United States?
2. In what states is the law of compulsory education in force and with what results?

3. Should *the elements* of the natural sciences on which agriculture depends, be taught to the more advanced pupils in rural district schools? And if not, why not?

4. Is short-hand of any special benefit to teachers? Enumerate the different systems in vogue, and describe the distinctive peculiarities or advantages of each.

5. What is the pronunciation of Francois Achille Bazaine? *Ans.* In the first name cois = swa. In second ch = sh — two syllables only. F.

6. Was his punishment for cowardice, incompetency or treason in surrendering Metz to Prince Frederick Charles? I find he was punished for "neglect of duty," but it does not say what motive, if any, impelled him to neglect it. *Ans.* The sentence was as you give it — for "failure to do his duty."

RACINE NOTES.

At the regular monthly meeting of the teachers of Racine for November Supt. Winslow appealed to the teachers to cultivate the spirit of hearty cordiality between themselves and with the Supt. Lack of such cordial feeling is soon observed by the pupils and becomes contagious with them. Consequently it interferes with the moral well-being of the school.

In discussing the relation of contagious diseases to the schools, after hearing the experience of the different principals, it was decided that pupils of families in which cases of mumps, measles, etc., exist, should not attend school.

In teaching primary numbers, the Supt. cautioned teachers to prevent pupils, who have learned numbers by counting, from continuing the county process. *e. g.* when the pupil is to add 9 and 6, he should recognize and call the sum 15 at once, and never be allowed to count from the nine to fifteen.

Prin. Sprague emphasized the "word method in numbers." He insisted that pupils learn the numbers before they know their power by counting; that $9 + 5 = 14$ should be taught as a unit just as the word *and* is taught as a unit.

Prin. Tibbits objected to this, and maintained that the single number 9 is the unit corresponding to a word, and that it is more profitable to teach pupils the powers of numbers as rapidly as they learn the numbers, by counting toothpicks, beans, windows, pupils, fingers, etc.

The teachers of each ward school were invited to bring forward some prominent theoretical, educational query for consideration each month.

Prin. Tibbits took charge of the meeting for the last half hour, treating the teachers of the city as a class in Language and using the language exercises in the September number of the Wisconsin Journal of Education as the basis of study. This plan of work will be pursued throughout this year. We hope the Journal will give us substantial meat for such a diet, and trust this may be one of the brightest volumes in the career of the magazine.

RACINE PEDAGOGUE.

TESTING IN MENTAL ARITHMETIC.

MR. EDITOR: Yesterday I gave my High School pupils the mental arithmetic questions given in the July number of the Journal. They were under the same restrictions as the Milwaukee teachers and had 35 minutes in which to do the work. The following is the not very flattering result:

13	right	0.	7	right	3.	1	right	3.
12	,,	0.	6	,,	1.	0	,,	1.
11	,,	0.	5	,,	5.			—
10	,,	1.	4	,,	13.			47.
9	,,	0.	3	,,	9.			
8	,,	3.	2	,,	8.			

Per cent. for school—right 30.
,, ,, ,, A class— ,, 50.
,, ,, ,, B ,, — ,, 33½.

ALLEN B. WEST.

MILWAUKEE LETTER.

MR. WINSHIP'S LECTURE—TEACHERS' CERTIFICATES TO HIGH SCHOOL GRADUATES—THE PUBLIC COOKING SCHOOL.

On Oct. 24, A. E. Winship, of Boston, addressed the teachers of the city at the Fourth district school on the subject of Methods. The lecture was replete with sound pedagogy, and was delivered in a manner so pleasing as to hold the closest attention of the large audience. The speaker had no harsh criticism to make on past methods, but held that he whose enthusiastic advocacy of the new leads him to ridicule the old commits not merely a mistake but a crime; unless something deeper and broader than mere method be necessary there is no need for normal schools; the hunter whose attention is fixed on the gun misses the game; so the teacher who gives his thought to the subject and the method misses his game, the pupil's mind; by whatever method he works, these three things should be the teacher's aim: 1. To put the pupil on his feet, *i. e.*, to make him think for himself. 2. To train him to work in harmony with others; this includes the teaching of things which are conventional. 3. To make him loyal to destiny; he must learn to submit gracefully to the inevitable, and to confess ignorance when he does not know. The means of reaching these aims are: sympathy and rhythm; system and discipline; motive and purpose. A clear distinction was made between growth and development; the period of physical growth is followed by that of development, and the same phenomena are observable in the mind with this difference, that here there are several successive periods of growth and development. In the fact-learning period (from eight to about fifteen) the child is hungry for facts and should have plenty of them; he is growing now, feed him; later comes period of development, a reflective stage when he will correlate these facts, but to try to make him philosophise while in the fact-craving stage is but a futile effort. The recital of personal experiences to illustrate

the points presented, the happy flashes of wit, and the tone of genial good humor which pervaded the discourse, made it no less entertaining than instructive.

At the last meeting of the High School committee and committee on German, an extended discussion was had on the proposition to add to the fourth year of the high school course special work in German to prepare students to teach that language; also to grant trial certificates to high school graduates having 85 per cent. in all studies, and thus make them eligible to positions at $30 a month without passing the usual examination. Some members who favored the latter were opposed to the former on the ground that it would give undue prominence to the German language in the schools, but as the two recommendations seemed likely to stand or fall together, after an energetic discussion both were left over for one month.

Last week the work of the Milwaukee Public Cooking-School Association was begun in rooms conveniently fitted up for practical work in the Second district school. Two large rooms are used; one is fitted up with a large range, dressers, sink, etc., and near the middle is a semi-elliptical table, around the outer edge of which are appliances for pupils' use; this will accommodate a dozen pupils at once, and in front of each is a gas jet and iron frame which for most purposes serves as an experimental stove. Under the table is a compartment corresponding to each pupil's place, in which are kept when not in use such utensils as are needed, as spoons, knives, forks, stew-pan, cups and measures, breadboard, potato-masher, scrub-brush, etc.

The location was selected by the association because it is central. The classes will consist of girls from 12 to 16 years of age, and in numbers they will be limited for the present to about fifteen; they will be selected by the principals of the different schools, one class giving place to another as the course is completed by each. Two lessons a day of about two hours each will be given. The ladies composing the association, under whose auspices the work is at present, hope that with the facilities now afforded in the new quarters the value of the course will be so apparent that the School Board will make it a part of the regular curriculum. Miss L. H. Polson, a graduate of the Boston Cooking School, is in charge as teacher; she has had experience in similar classes in Boston. A text-book prepared by Mrs. D. A. Lincoln will be in the hands of the pupils, also lesson leaflets will be given out from time to time, and notes and suggestions made on the black-board with which the experimental kitchen is furnished.

The first class to receive the course was selected by Prin. Luening of the Second district school; they began at the initial point of practical kitchen work, having for the first lesson the subject making a fire and care of the stove. Certain members of the class are to be "cooks" others "housekeepers," and these honors pass around, so that each in turn is trained by actual experience in all kinds of kitchen work, from scrubbing, and blacking a stove, to setting table and baking cake. I. C.

OFFICIAL DEPARTMENT.

PROGRAM OF THE WISCONSIN TEACHERS' ASSOCIATION, DECEMBER 26–28, 1888.

Wednesday, December 26, 7:30 P. M.

ADDRESS—"The Practical in Education," Dr. B. A. Hinsdale, Ann Arbor, Mich.

Thursday, December 27, 9:00 A. M.

1. Business.
2. Report on "The Functions of the State Department of Public Instruction," Pres. W. D. Parker, Chairman.
3. Discussion.
4. Paper—"The Relations of District Schools to High Schools," W. J. Hoskins.
5. Discussion.
6. Paper—"Preparation for the English Course in the University," . . . . . Prof. Wm. F. Allen.
7. Discussion.

Afternoon Session, 2:00 P. M.

1. Report on "Elimination of Unprofitable Work from the Course of Study," Dr. J. W. Stearns, Chairman.
2. Discussion.
3. Paper—"The Program of the German Schools," . . Supt. C. F. Viebahn.
4. Paper—"The Program of the French Schools," . . . Supt. I. N. Mitchell.
5. Discussion.

Evening Session, 7:30 P. M.

Joint meeting of the Teachers' Association and the Wisconsin Academy of Sciences, Arts and Letters.

1. Paper—"The Importance of Libraries in Rural Schools," . . . . . Hon. J. B. Thayer, State Supt.
2. Paper—"Anarchy or Socialism," . . . . . Rev. H. D. Maxson, Wis. Academy of A., S. and L.
3. Discussion.

Friday, December 28, 9:00 A. M.

1. Business.
2. Report on "The Forces Available for the Development and Propagation of a Better Educational Sentiment," S. Y. Gillan, Chairman.
3. Discussion.
4. Paper—"Raising the Standard of the Rural Schools," . Prof. F. H. King.
5. Report on "Legal School Age," Pres. J. J. Mapel.
6. Discussion.
7. Report on "Summer School of Science," Supt. C. H. Keyes, Chairman.

HOTEL RATES.

The Park Hotel, one in room, (fires extra)	$2.50
The Park Hotel, two in room, (fires extra)	2.00
The Capital House, (no extra charge for heat)	1.25

RAILWAY RATES.

Members wishing to take advantage of the one-and-one-third fare must procure a certificate receipt for each ticket purchased going to Madison, and said certificate must be countersigned by the railway secretary of the association. When properly signed such certificates will be honored until Dec. 31 by the following roads:

Chi. & N. W., Ill. Central and Chi., Mil. & St. P. at Madison.
The Wis. Central at Portage and Waukesha.
Mil. Lake Shore & Western at Milwaukee, Oshkosh and Appleton Junction.
Green Bay, Winona & St. Paul at junction stations.
Chi., St. P., Winona & Omaha at Madison.
Chi., Burlington & Northern at La Crosse and Prairie du Chien.
Milwaukee & Northern at Milwaukee.

ALBERT HARDY, President.
O. E. WELLS, Secretary.
ALBERT SALISBURY, Ch'n. Ex. Com.

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Bloom, W. H.,	Bloomer.
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Bowell, H. J.,	Necedah.
Briggs, L. W.,	Oshkosh.
Bruenn, Mary,	Durand.
Cabanis, Geo. E.,	Mineral Point.
Cabeen, C. W.,	Neenah.
Carle, Etta S.	East Troy.
Carlisle, Miss Tinnie,	Durand.
Chamberlin, T. C.,	Madison.
Chandler, Nellie E.,	Madison.
Chandler, C. H.,	Ripon.
Chandler, W. H.,	Madison.
Chandler, F. E.,	Clintonville.
Cheeney, A. J.,	Chicago.
Cheeney, L. S.,	Barron.
Clapp, Betsey M.,	New Richmond.
Clark, L. H.,	Sparta.
Collie, Geo. L.,	Delavan.
Curtis, Emma J.,	Madison.
Curtis, H. C.,	Hartford.
Desmond, Wm. J.,	Milwaukee.
Dopp, E.,	Waupaca.
Ewing, A. L.,	River Falls.
Flavin, J. T.,	Watertown.
Florin, J. E.,	River Falls.
Fowler, H. B.	Sheboygan.
Frawley, M. S.,	Eau Claire.
Funk, Lewis,	Milwaukee.
Gaffron, O.,	Plymouth.
Gillan, S. Y.,	Milwaukee.
Goodrich, Jennie,	Durand.
Gray, Carrie,	Janesville.
Halsey, R. H.,	Oshkosh.
Hardy, Albert,	La Crosse.
Harris, Carrie,	Appleton.
Harvey, L. D.,	Oshkosh.
Hatch, M. A.,	Whitewater.
Hawes, F. B.,	Eau Claire.
Haylette, E. G.,	Sheboygan.
Hewett, P. H.,	Manitowoc.
Hilliard, O. G.,	River Falls.
Hoskins, N. L.,	Janesville.
Hoskins, W. J.,	Merrillan.
Howland, H. C.,	Eau Claire.

Humphrey, J. N.,	Whitewater.
Hutton, A. J.,	Platteville.
Jack, O. W.,	Waterloo.
Jones, Cynthia,	Durand.
Kern, Addie N.,	Oconomowoc.
Keyes, C. H.,	Janesville.
Kinney, D.,	Black River Falls.
Knowles, W. W.,	Chicago.
Krueger, Henry,	Watertown,
Lage, T. H.,	Durand.
Langdon, Mary A.	Burlington.
Lively, L. J.,	Chicago.
Livingstone, J. W.,	Dodgeville.
Long, A. R.,	Chippewa Falls.
Lucas, Stella,	Menominee.
Lyon, Thomas E.	Fond du Lac.
McGregor, D.,	Platteville.
McGregor, Alice,	"
McGregor, J. K.,	Eau Claire.
Middlecamp, Wm.,	Sommers.
Midgn, Bell,	Cartwright.
Miller, F. N.,	Oshkosh.
Morgan, Carrie,	Appleton.
Neff, Addie,	Neillsville.
Nelson, P. T.,	Whitewater.
Parker, W. D.,	River Falls.
Paine, C. G. G.,	" "
Porter, A. H.,	St. Paul.
Pray, T. B.,	Whitewater.
Ransom, S. C.,	Madison.
Reigle, Geo. W.,	Tomah.
Rice, Nora,	Sheboygan.
Richardson, Hattie E.	Berlin.
Riordan, J. E.,	Sheboygan.
Roberts, L. D.,	Shawano.
Rogers, Miss C.,	Whitewater.
Salisbury, Albert,	"
Schaler, T.,	Chicago,
Schlagle, Katharine,	Stevens Point.
Scoon, Emma C.,	Cartwright,
Shaw, Mary,	South Kaukauna.
Sheridan, Eleanor,	Madison.
Silver, Miss Fannie,	Green Bay.
Simpkins, Florence,	Durand.
Sims, J. F.,	Colby.
Slayton, Helen,	Durand.
Smalley, D. H.,	Fond du Lac.
Smith, A. J.,	Waukesha.
Smith, E. R.,	Manitowoc.
Spencer, R. C.,	Milwaukee.
Stearns, J. W.,	Madison.
Stewart, Flora,	Elkhorn.
Stewart, I. N.,	Appleton.
Swart, Rose C.,	Oshkosh.
Terry, H. L.,	Lake Mills.
Turner, J. M.,	Ashland.
Tyler, A. E.,	Eau Claire.
Tyler, Mrs. A. E.,	" "
Ulrich, Carl,	La Crosse.
Ulrich, Mrs. Carl,	" "
Viebahn, C. F.,	Watertown.
Voss, Pauline E.,	"
Wells, O. E.,	Appleton.
Whiting, A. J.,	Watertown.
Williams, W. H.,	New Richmond.
Wood, Clara,	Durand.
Wood, Mrs. L. J.	Warren, Minn.

O. E. WELLS, Sec'y.

CHANGES IN COUNTY SUPERINTENDENTS ELECT.

COUNTIES.	NAME.	ADDRESS.
Ashland	F. W. Broer	Butternut.
Brown	D. S. Rice	Morrison.
Clark	Geo. E. Crother	Thorp.
Chippewa	Alex. Sherman	Cadott.
Columbia	E. C. True	Cambria.
Crawford	A. McDowell	Mt. Sterling.
Dane, 2d District	L. R. Murphy	Bluff Station.
Door	W. L. Damkoehler	Bailey's Harbor.
Douglas	W. E. Chandler	West Superior.
Eau Claire	Mrs. L. A. Prezent	Eau Claire.
Florence	G. D. Swift	Commonwealth.
Fond du Lac	M. T. Blewett	Eldorado.
Jackson	T. V. Marsh	Sechlerville.
La Crosse	W. J. Hughes	West Salem.
La Fayette	L. Henry	Darlington.
Langlade	Ed. Nordman	Miller's Lake.
Lincoln	David Finn	Merrill.
Marquette	Thos. Skinner	Merrit's Landing.
Marathon	F. A. Strupp	Black Creek Falls.
Marinette	R. C. Ramsay	

Oconto	W. A. McKinley (disputed)	Abrams.
Oneida	A. Predeaux	Rhinelander.
Outagamie	Jervis Mullart	South Osborn.
Pepin	Miss Jennie Goodrich	Pepin.
Pierce	C. J. Brewer	Prescott.
Portage	And. P. Een	Stevens Point.
St. Croix	Lovila M. Mosher	New Richmond.
Sawyer	Mrs. Geo. Harrington	Hayward.
Shawono	L. D. Roberts	Wittenberg.
Sheboygan	Henry Greibe	Franklin.
Winnebago	Frank Miller	Elo.

MATHEMATICAL SECTION.

ALLIGATION ALTERNATE.

Thirty persons, men, women and children, earned $50. Each man earned $3.00, each woman $2.00, and each child $1.00. Find number of each.

				a.	*b.*	*Possible Answers.*								
	Men	$3 00	—4·3	1	..	1	2	3	4	5	6	7	8	9
Average earnings $1.⅔	Women	2 00	— ⅓	..	2	18	16	14	12	10	8	6	4	2
	Children	1 00	+ ⅔	2	1	11	12	13	14	15	16	17	18	19

As the earnings of each man exceed the average by four-thirds of a dollar, while the children, who alone earn less than the average, fall below only two-thirds of a dollar, it is evident that two children must be employed for each man in order to maintain the proper average wages. In the same way it appears that the excess earned by two women would be offset by the deficiency in wages of one child. Hence columns (*a*) and (*b*) represent two groups of laborers so arranged that each group earn the required average. Therefore, as each group consists of three persons, and the required number is thirty, we may take one group (*a*) and nine groups (*b*), or two groups (*a*) and eight groups (*b*), and so on. Either of the nine answers will meet all the conditions of the problem.

A brief discussion of the principles involved will be found under the head of alligation in any old, we had almost said antiquated, text-book on arithmetic. Our modern practical books wisely omit anything more than a passing notice of this topic, yet the older students in common schools, and even in high schools, might find both pleasure and profit in mastering this form of analysis.

QUESTIONS IN ARITHMETIC.

1. The cubical contents of a rectangular bin are 1,650 cu. ft. The length is one foot greater than the depth, and the width is five feet more than the depth. What are its dimensions?

2. Between 2 and 14 insert three arithmetical means, and find the sum of the series.

3. Divide 86 into two numbers, one of which shall be divisible by 8 and the other by 10.

Dr. —

ABOUT ALGEBRA.

In the teaching of Algebra in our elementary schools the most important ends to be kept in view are the mastery of the fundamental operations, of the *process* used in solution of equations, of the method of making a "statement" of a problem, and of the principles involved in each.

To accomplish the first a thorough comprehension of the significance of the symbols employed is necessary, in order that the various rules regarding signs, coefficients, exponents, may be seen to be rational and not arbitrary; and after such a foundation is laid for intelligent practice, systematic and continued drill will make the work of computation almost automatic. Beyond this, in algebra, as in arithmetic, a knowledge of elementary facts of factoring is absolutely essential to successful dealing with fractional quantities, and with all equations but the simplest.

In dealing with equations, the dominant thought of course is that two quantities are equal; hence the fundamental principle that any change in the value of either necessitates a like change in the value of the other. Transposition is the first method of changing an equation usually presented in which pupils readily see that the values of the two quantities (members) are changed either by adding something, or by subtraction. It is not so commonly understood that "clearing of fractions" is in like manner changing the values of both members by *multiplication.* The statement may be frequently heard that this process is correct because "it does not change the equation," or "does not change the value of the equation," or "does not change the values of the quantities," all of which statements are manifest absurdities. One member of the equation is multiplied for the *purpose* of changing its value, to substitute integral for fractional quantities; and the other is multiplied to affect its value in like manner. What the multiplier shall be is of course determined by the purpose of multiplying, and hence must be such a quantity as will contain (cancel) all denominators.

It is not enough insisted on that there are but four fundamental operations; that every so-called "step" in the solution of an equation is one or other of these four; and the pupil should be able to point out which in every case, giving the process its true name, whatever it may be, and should not be permitted to hide his ignorance of the real nature of his work by the convenient cloak of a new name, like "transposition" or "clearing of fractions." These are too often like "attraction of gravitation," names for something we do not understand. I have more than once been told that "no fundamental operations are used" in solving a fractional equation! It is not a matter of surprise that pupils so taught are unable to tell what *axiom* is applied in any given method of elimination. They "never use any."

Frequent examinations during the past few years of students from different parts of the state have gradually led to the conviction that the teaching of algebra is sometimes so managed that at best the net result is only a knowledge of certain rules and formulas, and that the discipline of the reasoning powers, the chief utility of the study in our schools, is greatly neglected. Observation

of the work of some candidates who appear before the State Board of Examiners goes to confirm the conclusion that there is in the minds of many students, and some teachers, no vital connection between the axioms and fundamental principles of mathematics and the various common processes of elementary algebra. It is all a matter of dead mechanical routine. Perhaps it is a comprehension of this fact that from time to time leads to an outburst of opposition to the teaching of this subject in elementary schools. An unintelligent knowledge of dry formulas and processes never utilized in investigation of truth, yielding no perceptible product of firmer grasp on mathematical truth, and power to think logically and consecutively, is indeed poor return for a year's work.

A mastery of the simple principles of the science is likely to be far more helpful in advanced work or in preparing for examination, than any extended acquaintance with special devices, or a certain definite line of hard problems. The easiest problem seems hard to the student who has not seen it before, and who has no power to apply general principles to its solution.

T. B. PRAY.

WHITEWATER, WIS.

IN THE SCHOOL ROOM.

LANGUAGE EXERCISES.

1. Convert each of the following groups of sentences into a single complex sentence: (1.) A bold expedient occurred to him. A good many people would have hesitated to attempt it. He carried it through successfully. (2.) He seized the king. He imprisoned him in the palace. He worked on his mind. At last he induced him to acknowledge himself a subject of Spain. (3.) He ordered him to be seized. He ordered him to be disarmed. He then conducted him to Gessler. Gessler put some questions to him. He answered these very haughtily. Gessler was in consequence both surprised and angry.

2. Change the following to the natural prose order:

> "They sat them down upon the yellow sand,
> Between the sun and moon upon the shore;
> And sweet it was to dream of fatherland,
> And child, and wife, and slave; but evermore
> Most weary seemed the sea, weary the bar,
> Weary the wandering fields of barren foam."

3. Arrange the clauses of the following in some other order: When spring comes the flowers will bloom again. The people could not refrain from capering if they heard the sound of the fiddle. There is something which is immortal in the sad, faint sweetness. The shadow of the earth in every position is round. In the early morning, the messengers, who had traveled all night, being very weary, dismounted at an inn.

4. Correct the following, and give reasons for your corrections: I don't hardly think he will come to-night. Who was Cortez sent out by? It is very likely that there was more than one concerned in it. Such prices are only paid in times of great scarcity. I told him he could stop at home this afternoon if he liked. I was in hopes to have seen you at the party last night. I can't understand how anyone can keep their temper. You can't deny but what you received the notice. What have you got in your hand? What did he say the name of this station was? Who did you give the parcel to?

5. Express clearly the two meanings which each of the following may have: You don't seem to like anything that I do. I was not aware that you had been absent till yesterday. He seemed to have more faith in us than his friends. I can't find one of my books. Common sense, Mr. Chairman, is what I want. He liked to hear her talk better than any of his associates.

6. Express the thought in different words: He proposed the immediate cessation of hostilities. The governor acted unconstitutionally in making unauthorized disbursements from the treasury. Canada sought new outlets for her surplus products. For a while the advantage in the struggle was on the side of the French, though the preponderance of population was vastly on the side of the English colonies.

SOME TEACHING DEVICES.

DRILL ON ELEMENTARY SOUNDS.—Pupils learn at a very early age the elementary sounds of the language. The teacher should give frequent drills on these sounds, both singly and in connection with words. It is probably best to give a drill on the words first, and then have the pupils articulate the sounds irrespective of the words. These drills may be made useful also in giving training in pitch, by having pupils first give the pitch in such a tone as the teacher may request, then in a higher or a lower tone, changing from one pitch to another. The drills may be made useful also in teaching force, movement, etc. A drill on the elementary sounds should usually be in concert. It will have a tendancy to encourage the timid, and at the same time train all to act and speak in harmony. The chief benefits of the drills are that they give flexibility to the voice and train the pupils to distinct and correct articulation.—*Raub.*

BEGINNING TO READ.—It was in a Chicago primary school that we saw a genuinely modern teacher take a class of little folk but a few weeks in school. They knew *cat.* She eraced the *c*, and they easily pronounced *at.* They knew the sounds of the letters she used to make *hat, rat, mat, pat, fat, bat.* She did not hurry them, did not "jump on to" the first hand that was raised, but made sure that all were thinking and that most were ready. She had them pronounce the *at* each time before writing a consonant before it, and then had them pronounce the word with no thought as to the word or its meaning. Then when they had spoken the word their little eyes would sparkle and their hands come up to tell something they knew about the word. From the word *man* erasing *m* and

leaving the *an*, she had them go through the words *pan*, *can*, *fan*, *ran*, *and*, *hand*, *hands*. The last word gave some of them a deal of trouble. Then returning to *man*, and eracing the *n* she made the words *mat*, *mad*, *map*.—*Am. Teacher.*

SUGGESTIVE PARAGRAPHS.

EDUCATION is the knowledge of how to use the whole of one's self. Men are often like knives with many blades; they know how to open one, and only one; all the rest are buried in the handle, and they are no better than they would have been if they had been made with but one blade. Many men use but one or two faculties out of the score with which they are endowed. A man is educated who knows how to make a tool of every faculty—how to open it, how to keep it sharp, and how to apply it to all practical purposes.—*Henry Ward Beecher.*

WHEN the teacher is easily provoked and falls to scolding to remedy existing evils, it may be set down at once that he knows little of the doctrine of discipline. It is the delight of a certain class of boys to tease, and we don't say their dispositions are very perverse either. Tell one of these quick, fun-loving boys to do a thing, and impress its importance with a scowl and a menacing threat, and if he has any snap about him he will do the opposite. The reason is that the request comes as a stern demand—as a "I dare you not to do it." The corner grocery man, who had just had his front painted, placarded with big black letters on white cardboard—"Freshly painted—don't touch it." It wasn't the "Freshly painted" that caught the boy's eyes, but "Don't touch it." Every little fellow had to try it to see if it would stick. Don't placard too many "Don'ts." Patience and plenty of work before these trying spirits will make the best of citizens out of them.—*Missouri School Journal.*

THE best way of getting out of this narrow life is to have generous purposes ourselves; is to feel that life is something more than the particular occupation in which we are engaged, and that success in that may be coincident with complete failure as a whole. A man who gets a generous aim and endeavors to live by it will soon learn to respect the larger aims of other men and to understand that their different habits and methods may be quite surperior to his own. The war for the liberation of humanity, in which the great German poet Heine wished to be counted a faithful soldier, is not focused at one or two points; it is a strife which goes on the world over; it sometimes divides households, as when a son or a daughter develops some talent for an occupation different from those in which the family fortunes have hitherto been made; it breaks out in a neighborhood when some man dares to depart from the conventional usage and wear a coat of his own cutting or utter a truth of his own finding. Before condemning let us search our own hearts, lest in our presumptuous ignorance we pass judgment on a prophet. Such things have happened and may happen in every community.—*Christian Union.*

OUR BOOK TABLE.

CONCERNING SCHOOL HOUSES.

TOWN AND COUNTRY SCHOOL BUILDINGS; A Collection of Plans and Designs for Schools of Various Sizes, by E. C. Gardner. E. L. Kellogg & Co., N. Y.; 128 pp.

The prominent characteristic of our country school houses at present is the lack of ideas shown by them. Not only is there in them no effort at architecture, but there is also no appreciation of what is absolutely necessary in order to make them fit for the use of a school. They are too often rude boxes with a chimney in one end and a door in the other, pitched in an unsuitable way upon an unsuitable site, and shamefully abused and neglected. There can be no sufficient excuse for such a state of things. The opening paragraph of this book states the case clearly: "Even in frontier regions where only primitive resources are at hand, it is expedient in building school houses to pay due regard to matters of taste, convenience and health. The rawest kinds of raw material may be put into artistic forms by thoughtful arrangement. Convenience does not depend upon complex machinery, and experience proves that the simplest precautions and expedients are of vastly more importance in sanitary matters than the elegant and elaborate devices that have come to be considered a part of modern civilization." Our rural school houses are what they are because of gross ignorance and apathy in regard to such matters in our communities. Books like this, therefore, are much needed and ought to be received with favor. It presents twenty-three plans and elevations for school houses, ranging from the simplest one room building to the village high school. These plans are artistic, and sufficient details are given to guide in the construction. But besides the plans the book discusses a large number of important details to be considered in building after any plan, such as the preparation of the ground, arrangements for lighting, heating and ventilation, provision for clothing and for drying it, construction and care of out-buildings, provisions for play in rainy weather, protection against fire, fences, yards, blackboard, and so on,—a great number of practical subjects so discussed as to set fourth underlying principles and show how to adapt them to a great variety of circumstances. Teachers and school officers should be interested in such a book, not only when building is contemplated but at all times, since the practical suggestions it contains will aid them in improving and caring for their present surroundings. The book is finely illustrated and very satisfactory in its appearance.

—SECOND LESSONS IN ARITHMETIC, by H. N. Wheeler, (Houghton, Mifflin & Co.; 282 pp., 60c.) is a book that teachers of this branch will find it greatly to their interest to examine with some care. It is based on the well-known Colburn's First Lessons, and is a very successful attempt to apply the "Inductive Method" to all the topics thought worthy of mention in a practical text-book.

The author has been more successful than most others in so arranging his matter as to induce "the pupil to gain an experience of his own which will enable him to regard every definition as the result of his own personal observation and thought, every rule as a statement of the methods by which he has done something, and every new word as only a labor-saving device for the expression of a familiar idea." The treatment of decimals, especially in multiplication and division, is particularly successful in leading the pupil from the simplest problems to the most difficult by easy steps with an abundance of illustrations and examples. The section upon Interest is equally full and carefully graded so that no difficulty is presented till the pupil is prepared to meet it. The usually troublesome subject of stocks affords another illustration of common-sense methods. The simpler operations of the stock exchange are fully described and illustrated by an abundance of practical, and therefore *simple*, examples taken from ordinary newspaper reports. The author's idea is closely adhered to throughout, of meeting the usual difficulties of practical arithmetic by explaining the facts underlying processes, and by excluding all non-essentials. That he has struck out boldly from the beaten track will be evident when it is seen that divisors and multiples are only briefly treated toward the close of the book, denominate numbers reduced from its usual space of 80 pages or more to about 20 pages, and interest set as the first topic to be treated under percentage. While the author's independence and good judgment are to be admired, this last change seems rather inconsistent, since duties, taxes and stocks do not involve the element of time, and must therefore be simpler than partial payments and discount. The book is to be welcomed as a hopeful sign of the introduction of better methods, accompanied by a reduction of the variety of work required; but must proportion, or the old "rule of three" go too? *P.*

—THE STORIES MOTHER NATURE TOLD HER CHILDREN. It seems as if the problem of supplementary reading for primary and intermediate grades were rapidly being solved, by the appearance of many books for both home and school. Among the books of this class, we reckon those so well known to teachers written by Jane Andrews. A new one has been issued under the title, "The Stories Mother Nature told her Children." These stories were written many years ago for the "Young Folks," and we are glad that the present generation may share in our pleasure as we re-read them. They are equally interesting to young and old. Mother Nature's teaching cannot grow old. She gives us in these stories glimpses of sea and land, of forest and lake, of giants and fairies. She does not tell us all, she only gives us clues that we may follow if we will. The stories are like the beads of Jeanie's amber necklace, each one different. Here an insect who tells his story of life; there a bit of moss or an acorn which has seen the changes of ages. Each tells its story in its own way. Mother Nature teaches in everything the lesson of love and reverence. She teaches that "perhaps there is something white and beautiful in all that seems dark and ugly, if we only will watch and wait for it, and be willing to come at the very dawn of day to look for it." W.

—MEMORY, WHAT IT IS AND HOW TO IMPROVE IT, by David Kay, (D. Appleton & Co., 334 pp.) is the eighth volume in the International Education Series. A glance at the table of contents leads one to ask whether memory means the whole mind; but the author put his case thus: "It is impossible to overestimate the importance of this subject as bearing upon education. The whole science of education may be said to be embraced in the question how to improve the memory. It includes not merely the cultivation of the different mental faculties and furnishing them with knowledge, but the training of the senses, and the developing of the various physical powers." To the common reader it is a little confusing to have familiar terms used in unfamiliar ways, but since remembering is related to all our activities it is possible to include the training of all under that head. The style of the book is diffuse, and its method erudite rather than scientific. To this effect the copious notes contribute not a little, being usually merely quotations in support of the text, and from writers so diverse as Watts, Lord Kames and Jeremy Taylor on the one hand, and Taine, Maudsley and Spencer on the other.

—LITERATURE IN SCHOOL, Riverside Literature Series, contains Horace Scudder's address before the National Association on The Place of Literature in Common School Education, and two essays which have appeared in the *Atlantic*, Nursury Classics in School and American Classics in school. We heartily commend the pamphlet to the attention of teachers. The claims of literature have rarely been so suggestively presented as in the opening address, which we wish might be widely studied.

—HARPER'S READERS, First, Second and Third, (Harper & Bros.) have been awaited with high anticipations in consequence of the time and care spent in the preparation of them. We feel sure that these books will fully meet the anticipations. The first reader is noteworthy both for what it omits and for what it does. The child is not perplexed with diacritical markings, but helped forward at once to the power to read by a judicious selection of words, which are introduced a few at a time and repeated frequently until he becomes familiar with them. The Second and Third books are equally admirable, the series being steadily progressive from beginning to end. Phrases for review, language lessons, selections for memorizing, suggestions to teachers, helps of various sorts are abundantly provided. The illustrations are especially worthy of note, being in the finest style of art. It is another recommendation of the books that they provide an unusually large amount of reading matter, and matter selected for its instructiveness and usefulness in forming the mind and character of the pupils. An examination of these books satisfies us of their superior excellence and teachableness, and we look to see them widely adopted in our schools.

—ANIMAL MEMOIRS, Part II, Birds, (Ivison Blakeman & Co., 397 pp.) Dr. Lockwood's second volume is in some ways even more attractive than the first. It is first of all bright and interesting, giving the reader entertaining pictures of bird life, but it is also carefully arranged to increase his knowledge of the structures, habits, and relations of these animals. Such sketches as those of

the robin, the oriole, the woodpecker and the cow-bird, not to mention others, are admirably adapted to make a boy an observer and lover of nature.

—THE FIFTH NATURAL HISTORY READER, by Rev. J. G. Wood, (Boston School Supply Co.; 281 pp.) is devoted to birds, reptiles and fishes, which are presented in a systematic manner, making the book an introduction to natural history. It is also carefully graded as a reader and provided with the usual helps and adjuncts. The chapters are full of anecdote and interesting detail.

—BOTANY FOR ACADEMIES AND COLLEGES, with a Manual of Plants, by Annie Chambers Ketchum, (J. B. Lippincott & Co., Phil.; 192 pp.; $1,00) contains much in little space. The author begins with the simplest forms of plant life, the cryptogamia, and follows their development "from the green stain on our door-stone to the magnolia and clematis,"—an order which is further enforced by a brief chapter on fossil plants. The book is abundantly illustrated, and unusually convenient in form, but the print is much of it very fine.

—PREPARATORY FRENCH READER, by O. B. Super, (D. C. Heath & Co.; 224 pp.) is designed especially to meet the wants of beginners who require easy and interesting reading. There are six of Anderson's stories translated into French and short pieces from Erckmann-Chatrian, Alexandre Dumas, Alphonse Daudet, Joseph Miry and Xavier de Maistre. These have been adapted to the work by slight changes, to simplify occasional constructions. It is an excellent reader for beginners.

—No. 38 of the Riverside Literature Series is THE BUILDING OF THE SHIP and other poems by Longfellow, viz: The Masque of Pandora, The Hanging of the Crane and Morituri Salutamus. Introductions and a few notes are added.

—XENOPHON'S HELLENICA, books I–IV, by Irving J. Manott, (Ginn & Co., Boston; 288 pp.; $1.75.) belongs to the admirable College Series of Greek and Latin Authors. The text is remarkably clear and excellent, the notes, which are abundant, are at the bottom of the page, and the introduction furnishes an effective outline of the history and a discussion of the relations of Xenophon's work.

—EASY WORDS FOR LITTLE LEARNERS, (D. D. Merrill, St. Paul,) combines spelling and language work for little folks. Beside word lists are exercises to be filled out, and directions to teachers.—CHARMING SONGS FOR LITTLE WARBLERS, by Geo. Gill, (Boston School Supply Co.) gives a pleasing variety of songs suitable for the nursery and the infant school.—PRIMARY NUMBER CARDS, (Ginn & Co.; 30c.) gives a series of little problems for young learners, four or five on each card. Teachers will readily recognize many ways of using them effectively.

—ENGLISH-GERMAN MODEL LETTER WRITER AND BOOK-KEEPER, by Dr. Jacob Mayer, (I. Kohler, 911 Arch St. Philadelphia; 502 pp., $1.50) contains both the theory of letter writing and models of the art. In the English we have a really interesting collection of letters written by persons of distinction. The German letters also are interesting, and we presume equally good models, but

for some reason the names of the writers are not given us. The letters are classified and represent all kinds of correspondence. Besides these the book gives samples of the various kinds of business papers, a system of book-keeping with practical exercises, and a collection of short poems.

—ELEMENTARY PHYSIOGRAPHY, an Introduction to the study of Nature, by John Thornton, (Longmans, Green & Co., New York; 248 pp. 80c. W. J. Park & Co., Madison.) The sub-title describes the title, which has not yet become common in the United States. This is a schoolmaster's book; its form and treatment by definition would reveal this at once. Despite the form the book has much to recommend it—matter well selected, clearness of exposition and a good arrangement. The print is very objectionable, a portion of it being altogether too fine for a school text book.

—A COLLEGE ALGEBRA, by G. A. Wentworth, (Green & Co., Boston, 494 pp. $1.65) will meet with a cordial welcome first because of the author's former works, and then on its merits. The review of elementary Algebra given in it is brief, and thus space is gained for a full treatment of Choice, Chance, Series Determinants, and the General Theory of Equations. The work is designed for a full-year course.

—THE ESSENTIALS OF GEOGRAPHY for School Year 1888–9, by G. C. Fisher, (N. E. Publishing Co., Boston, 88 pp. 50c.) is the quintessence of dryness. It seems to be made on the theory that so many pages of barren and unrelated facts must be committed to memory. And what are the facts? "Boston is the commercial and literary metropolis of New England. Providence is the second largest city of New England. New Haven is the seat of Yale College," etc.

—LABORATORY MANUAL OF GENERAL CHEMISTRY, by R. P. Williams, (Ginn & Co., 100 pp. 30c.)

MAGAZINES.

—The holidays begin to shine for us in the appearance of the December magazines. Of these in richness and variety of engravings *Harper's* is chief. The Viking's Daughter is a striking frontispiece. The Last Mass, A Christmas Mystery, in the Fifteenth Century, Fragile and A Midnight Ramble, contain the finest pictures, though Mr. Stedman's striking poem, Morgan, with illustration by H. Pyle, and Anna Ludlow's A Soul's Drama, with illustration by Vedder, command instant admiration. Howell's force has become a standing feature of the Christmas number, and this year it is A Likely Story.

—*Scribner's*, though less in price, is not inferior in art or interest to the other illustrated monthlies. Rarely have winter scenes been better set out than in the illustrations to Winter in the Adirondacks. Very striking also and Vedderesque are the four illustrations to the peom The Lion of the Nile. In art we must mention Old Glass in New Windows and Sandro Botticelli for the five engravings they contain. In Stevenson's Master of Ballantrae *Scirbner's* has secured one of the most attractive of serials. Its railroad articles will be continued during the next year.

—The *Atlantic* is becoming noted for its educational articles. Pres. Hyde, of Bowdoin, contributes The Future of the Country College, from some of the positions of which many will decidedly dissent. Susan Coolidge's sketch of A Convent School of the Last Century, drawn from the diary of the princess Massalski, is delightful and instructive. It is a long time since any magazine has secured so enchanting a story as Mr. Hardy's Passe Rose. Urbs Animae pleasantly summarizes for us, with suitable extracts the sketches of Italy in the fifth century, found in the elegiacs of Rutilius Numatiarms. The reviews are excellent.

—The *Popular Science Monthly* opens with the Psychology of Deception, by Prof. Joseph Jastrow, of the University of Wisconsin. Madam Rogers' sketch of Animal Arithmetic, if a little too credulous, is also extremely suggestive of what may come from the study of comparative psychology. C. C. Abbott's The Pine Tree Lizard, Grant Allen's Evolving the Cane, R. A. Oakes' Beliefs about the Soul and Saporta's Origin of Forest Groupings, with other articles make up a number of more than average interest.

—The *Century* makes it appearance too late for notice of the December issue this month. The prospectus for the coming year is full of rich promises. The Lincoln Biography and the Siberian papers will continue during the year. The Gallery of Italian Masters, engraved by Cole from the original paintings, and begun in November, is singularly attractive. The opening chapters of The Romance of Dollard are full of interest, as also is the first installment of Mr. Cable's Strange True Stories of Louisiana. Bible Scenes, Studies in Japan, Pictures of the Far West and other serials are promised.

—*Wide-Awake*, ($2.40 per year) will be sure of favor with young readers. It has stories, poems, histories, sketches, pictures—all of excellent quality, as evidenced by the names of the writers, Boyesen, Trowbridge, Mrs. Fremont, Susan Cooledge, etc.

—*Treasure-Trove*, ($1.00) will bear comparison with the Youth's Companion. It is entertaining and instructive— a veritable treasure for a boy or girl.

—*St. Nicholas* has an established reputation as the most artistic of children's magazines, and we do not see any decline in the variety and interest of its contents. Indeed the next year promises to be one of its best—an "all around the world year," in which it will lay before its readers things from all quarters of the globe.

—*Harper's Young People*, (weekly, $2.00) is rich in attractions, as an examination of the bound volume for a year will satisfy any one. Besides its stories and its admirable pictures it affords a large amount of instructive and helpful information to its young patrons.

—If you wish to subscribe for any magazine not on our clubbing list (published elsewhere) write to us and we will try to arrange clubbing rates that will be advantageous for our subscribers.

NEWS AND NOTES.

—In an address to the teachers of Appleton, Principal O. E. Wells speaks as follows: "I want to say to you, read sparingly of so-called teachers' literature. I can hardly conceive of a more dreary, stultifying lot of rubbish for one to pore over than the mass of publications relating to our profession. Native talent alone will not enable the inexperienced quickly to acquire wise or expeditious methods; hence a few simple, but well chosen books must be read, after which inspiration should be sought in literature or the natural sciences. "Nicholas Nickleby," "Fairy Land of Science," or "Innocents Abroad" will be more inspiring to you than Francis W. Parker, or Raub, or De Graffe, or Sypher, or Johonnot, or Baldwin, or "Intelligence," or "The Practical Teacher," or the "New York School Journal." There is a whole library of such publications, or worse; but I will not enumerate them, having but a slight acquaintance with their contents. It can not be denied that they contain helpful suggestions, but I deplore the weary task of sifting cartloads of chaff for spoonfuls of wheat. I think it of more worth to know much to teach than to know much how to teach; hence I would have you read a few books on how to teach, and many that will give the mind a rich furnishing with the things most worth knowing." There is some reason in the advice. On the whole, the pedagogical literature of this country is deplorably thin. Teachers are to blame for this, since it is such that they call for. We should not say "read sparingly," but "read discriminatingly" of it, and we should

not discriminate exactly as the speaker does. But it is true that a richly furnished mind is more desirable than much theory.

—The Black River Falls high school shows an enrollment of sixty-four—double that of two years ago.

—Supt. Lewis, of Washington County, issued in German an account of the Course of Study for Common Schools. It makes a pamphlet of seven pages, and will serve to make German parents understand the plan of organizing country schools.

—From Hayward, Washburn County, comes a little monthiy folio, Our Public School, published by G. G. Williams.

—The school board of Poughkeepsie, N. Y., issue on card folders lists of books recommended for the reading of pupils in each grade. The idea is excellent and might be profitably copied wherever there are public libraries for the children to draw from. The lists are prepared by the librarian of the city library.

—In the Edgerton bible case, in which suit was brought by Catholic tax-payers to prevent the reading of King James' version of the bible in the public schools, Judge Bennett held that such reading was not sectarian instruction, the children of the petitioners not being obliged to listen if they did not desire. There was nothing, however, to prevent the children from reading a version of the bible accepted by the Catholic Church, if they preferred.

—In the following particulars we seem to be behind the English schools: Professor MacAlister said his attention had been especially attracted to the singing in the Board schools and to the excellence of the scientific instruction. Instruction in the former is very thorough, the "Tonic Sol Fa" system being universally used throughout England. "So far as my observation went, the results are very striking. Universally the children sing well, and in the higher standards difficult part music was sung by the children at sight quite readily. The English people, I think, value this training quite highly. It is a feature of the schools which more than any other reaches the home and is having a marked effect upon the general culture of the great mass of the people. The science instruction has taken the place of the object lessons, which still survive in American schools. The teachers who give them are required to hold special certificates, and in the higher standards the boys pursue laboratory work in chemistry. The memorizing of words and facts aside from experiments is almost wholly unknown. The instruction in drawing, however, seems to me to be not equal to that given in American schools. The textbooks are inferior, and the methods such as have been discarded in the best schools here."

—Prin. J. H. Ackerman, of the Arcadia high school, has resigned his place as principal which he has successfully filled for several years, and will enter upon a course of professional study at the State Normal School in Milwaukee. County Supt. T. H. Lage, of Pepin County, is now taking a course in the same institution.

—The school under charge of Mrs. D. H. Schuler, in Milwaukee, is now known as the Nineteenth District School.

—The Fond du Lac schools publish monthly *Our Little Folks' Reader*, a sixteen page pamphlet made up of the compositions of little people in the second, third and fourth grades. The pieces are natural and very creditable

to their young authors, who doubtless feel a reasonable measure of pride at "seeing themselves in print" at so early an age.

—In Sauk County a number of teachers who have completed the three years' work provided in the Reading Circle course, are proposing to continue their study still another year. The plan under consideration is as follows: For professional study to take Spencer's Education, and to combine literature and history by reading either Green's Short History of England or Montgomery's Leading Facts in English History, and also Scott's Ivanhoe, Kenilworth and Woodstock, which relate to English history, touching respectively the time of the early Plantagenets, of Elizabeth, and of the Civil War and the Commonwealth. As a further study of Scott they will also read The Lady of the Lake and The Lay of the Last Minstrel. The reading proposed is more extensive than that of the other years, but it is much more organically connected, and the interest arising out of that fact and from Scott's romances and poetry will make it unusually interesting. It may be that there are other teachers in the State who would be glad to take up this line of work. If so the books can be obtained at Reading Circle rates by corresponding with the Secretary regarding the matter.

—The increase of free high shools in this state during the past few years has been very rapid, and we know of several others which expect soon to fulfil the conditions of the law and seek enrollment on the list. This growth is very satisfactory, but it brings with it increasing responsibilities. There is at present no adequate provision for the inspection of these schools, and that they need inspection no intelligent observer will question. Their courses of study are in general modeled upon the scheme issued twelve or fourteen years ago and not since revised. The permanence of this has undoubtedly been of great value, but the time seems to have come when some modifications in it might well be undertaken, in the interests of all the educational work of the state. The manner in which it is modified and carried out in the different schools affords opportunity for a fruitful study of school plans. These schools also need to be classified, as under the common name of high schools we now have institutions really of very different grades, and an uplift would be secured by marking the differences in some way so that the lower schools might have higher ideals before them. Moreover, the number of these schools is now so large that the fund for encouraging them is no longer adequate. If the policy of granting an allowance from the state for free high schools, now a permanent feature of our system, is to be helpful to new organizations in the way intended when it was inaugurated, it will be necessary to increase the fund set aside for this purpose. A fund which was adequate to foster thirty or forty schools is quite inadequate when it must be divided among one hundred and fifty.

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Which is now appearing in the standard literature department of the paper, is just entering the crisis of the Revolution which can be read by itself as the most vivid picture in all literature of that thrilling and momentous event. At the conclusion of this famous work, Shakespeare's

JULIUS CÆSAR,

Entire, with full notes, will be published covering the last 14 or 15 weeks of the school year. Judging by the Merchant of Venice, published last year, we feel sure that Julius Cæsar and its treatement will give great satisfaction.

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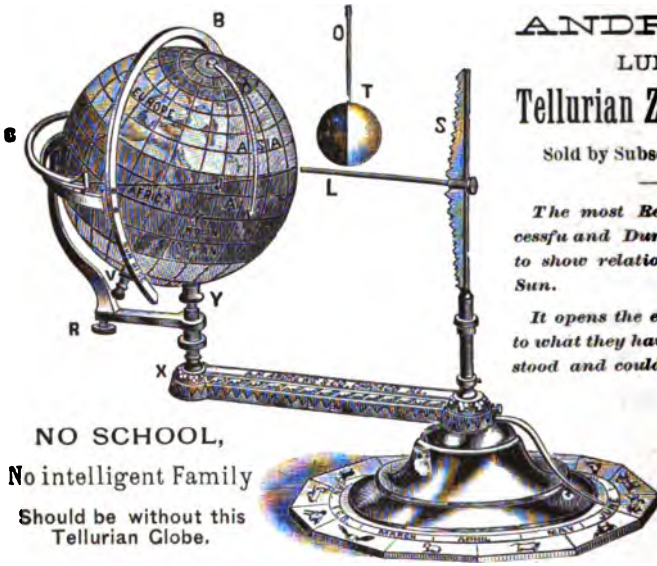

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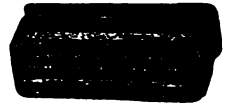

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How Shall Spelling be Taught?

Inasmuch as teachers generally are recognizing the need of improved methods of teaching spelling, and are seeking to render their efforts more effective, the following copies of communications to the Milwaukee Board of Education will doubtless prove of interest.

Milwaukee, April 5, 1887.

To the Committee on Text-books and the Graded Course of Instruction.

Gentlemen: I beg leave to call to your attention an important matter in connection with the course of instruction. For some time the opinion has been gaining ground in the minds of our teachers that a change for the better could be made in the method of dealing with spelling.

To explain this matter fully, I ought to say that some four or five years ago the results obtained in the teaching of spelling and the methods used were brought into question, and the opinion prevailed that it would be advantageous to dispense with the text-book in spelling. This book required the teaching of many words which were unmeaning to the child. It presented lists of words without regard to classification, and rather inculcated the following of unnatural methods of instruction. By the recommendation of the principals and the Superintendent, the School Board abolished the text-book then in use, and required teachers to select words for the spelling exercises from the readers, geographies, arithmetics, and the various other text-books in use in the schools.

Experience seems to prove that this method of teaching spelling results in a great waste of time; that it is indefinite, vague as to requirements; that it places upon the teacher an unusual amount of labor in copying lists of words upon the boards; that it requires the child to copy these lists, sometimes in haste and frequently without regard to neatness or care in penmanship; that the work accomplished by pupils and teachers, and recorded in this manner, is often lost or misplaced; that, as before suggested, there is plainly a feeling of indefiniteness; that some teachers select words from the reading lesson, and others seem to select other classes of words; in fine, that the results obtained and the methods practised after the former text-book was abolished have been vague, indefinite, and uncertain, detrimental to the pupils' habits of penmanship, etc.

A careful examination of this whole matter in teachers' meetings has brought a large majority of our principals to the conviction that a decided

gain would be made by the introduction of a spelling-book, provided that such book be free from the faults found in the old book formerly in use here. Our teachers have but moved in the line with other teachers in changing their opinions regarding the value of the spelling-book. When they abolished the old book it was because they thought that the book itself represented vicious methods of instruction. Since that time book-makers have found it necessary to reform the books. Accordingly, we have been presented with a series of spelling-books, nearly all of them superior to the one in use some years ago. The ideas prevailing in the minds of teachers have been followed in the publication of the books. Selections of words have been made with proper regard to the nature of the child's growing vocabulary and to his increasing acquaintance with the difficulties of the language.

The principals of our schools, after having considered the matter as I have just said, decided to recommend to your Committee and to the Board that a change be made in the method of teaching spelling by the introduction of a spelling book. They also respectfully submit their opinion as regards the selection of a book. They have, therefore, unanimously decided to ask for the adoption of the book herewith presented, namely, "Reed's Word Lessons."

In presenting the result of the principals' deliberation, I would like to say that my own recommendation goes with theirs. I recommend "Reed's Word Lessons" as being the best adapted to the use of our schools and the adoption of the spelling-book in accordance with the following recommendation of the principals:

First. That you recommend the use of Reed's "Word Lessons" in all grades above the third in the schools of this city.

Second. Should your Committee regard with favor the choice made by the principals, that you arrange with the publishers of such work for its introduction upon the most liberal terms that can be obtained.

WM. E. ANDERSON,
Supt. Schools.

MILWAUKEE, February 7, 1888.

To the School Board.

GENTLEMEN: Your Committee on Text-books and the Graded Course of Instruction beg leave to report that they have considered the adoption of a spelling-book for use in the grades of the public schools of this city. As a result of their careful consideration of the merits of the different books presented for examination by the publishers, and after conference with the

superintendent and the principals of schools, your Committee have decided to recommend the adoption of Reed's "Word Lessons." With this recommendation they would therefore offer the following resolution:

Resolved, That Reed's "Word Lessons" be and is hereby adopted for use in all the grades above the third of the public schools of this city, for a period of five years from date.

. . . . . .

Very respectfully submitted,

EDWARD J. PAUL,
DAVID GARDNER,
EDWARD W. BARTLETT,
Committee on Text-books and Graded Course.

This resolution was adopted by unanimous vote of the Board.

A. H. SCHATTENBERG,
Sec'y School Board.

The well-known dissatisfaction with the old-style spelling-book methods has led to the publication of a large number of text-books—all aiming to meet the new requirements. When, therefore, it became known, more than a year ago, that the schools of Milwaukee had decided to resume the use of a text-book on spelling, the Principals and Superintendent were supplied with specimen copies of these books. The full report of the meeting of the Principals, called for the purpose of making known the results of their individual canvass of all books, shows their work to have been most fair and critical. The result of this work is given in the Superintendent's report. This report was sent to the Board of Education in April, 1887, but no action was taken by that body for nearly a year. In the meantime many other new books were published and copies of them also submitted to the Superintendent, Principals, and members of the Board, and their claims vigorously urged. The Superintendent and Principals again considered the question of a selection of a book, and unanimously re-affirmed the opinion they had formerly expressed. After a like careful consideration, the Text-book Committee unanimously recommended, and the Board unanimously adopted, **Reed's Word Lessons** for exclusive use in the schools under their charge.

The facts in the Milwaukee case have thus been fully given because of the high standing of the Milwaukee schools and because a large number of educators are dissatisfied with their present methods and results of teaching spelling, and are seeking something better. Is it not just to conclude from the foregoing statement of facts, and from the many like cases that have resulted in the selection of the same book—first, that spelling may be more effectively taught with than without a SUITABLE spelling-book; and, secondly, that of such spelling-books **Reed's Word Lessons** IS THE BEST?

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RIVER FALLS,	Spring Term opens	MONDAY,	April.	3
OSHKOSH,	Fall Term opens	TUESDAY,	Aug.	30
PLATTEVILLE,	Fall Term opens	TUESDAY,	Aug.	30
WHITEWATER,	Fall Term opens	TUESDAY,	Aug.	30
MILWAUKEE,	Fall Term opens	WEDNESDAY,	Aug.	31

Terms of Admission.

I. Free tuition in the Normal Schools is accorded to all persons sixteen years of age and upwards, of sound physical health, good moral character, and sufficient scholarship. Any such person may attend the Normal School most convenient, and may be transferred from one to any other upon certificate of withdrawal in good standing. Students entering any Normal School are required to subscribe to the following declaration:

I, ——— ———, do hereby declare that my purpose in entering this State Normal School is to fit myself for the profession of teaching, and that it is my intention to engage in teaching in the public schools of this State.

II. Persons applying for admission to a Normal School are examined in reading, writing, spelling, geography, arithmetic, grammar and pronunciation, and are expected to possess the proficiency in these branches usually required of candidates for third grade certificates. Applicant should bring appointments from the county or city superintendent in whose district he or she may reside. Applicants failing to satisfactorily pass the required entrance examination, may temporarily attend the Preparatory Department, where a tuition fee of fifty cents per week is charged.

COURSES OF STUDY.

Each Normal School, except the one at Milwaukee, offers an Elementary Course of two and one-half years, and an Advanced Course of two years. At Milwaukee, the latter course only is furnished. Certificates are issued upon completion of Elementary Course, and diplomas upon completion of Advanced Course. Persons may enter at such stage of the courses as their scholarship may warrant, but no diploma is issued to any person who has attended the school less than one year.

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Information as to board and other matters may be obtained by addressing the Presidents of the respective schools as follows:

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Chemistry..... Prof. W. W. DANIELLS.
Physiology and Zoology .....Prof. E. A. BIRGE.
Botany .....Prof. C. R. BARNES.
Physics and Physical Geography..... Prof. GEO. BECK.

As will be seen, the professional character of the faculty selected insures a profitable experience for all attending.

It is the purpose of the instructors in all the branches to adapt the work as closely as possible to the needs of those in attendance, and the following brief outlines are published, as suggestive in a general way of the work proposed, which will, however, be subject to such modifications as circumstances may render desirable:

In PSYCHOLOGY the instruction will have special reference to the bearings of its doctrines upon teaching, and the character of the instruction in this subject appropriate to high schools. It will be occupied chiefly with the psychology of knowing. Those who attend will find it advantageous to have Sully's Outlines of Psychology for consultation. The course will comprise twenty lectures.

In PEDAGOGY, the general principles of methods, and their application to some of the common school branches, will be discussed; courses of study; school organization and supervision; school hygiene.

PHYSIOLOGY.—The course in physiology will consist of two parts; first, a daily lecture or conversation, in which the main topics of physiology will be discussed with the special aim of bringing out points not noticed in ordinary school physiologies. Second, a laboratory course is offered, requiring from two to three hours work per day, and including (1) dissection of some vertebrate; (2) study of human skeleton and Auzoux models of eye, ear and brain; (3) microscopic study of the most important tissues and organs; (4) performance of some of the simpler physiological experiments. A scalpel, dissecting scissors and forceps will be needed by the student.

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ZOOLOGY.—A laboratory course in zoology, chiefly structural zoology, will be offered, especially adapted for students wishing to pass the examination for a state teachers' certificate. It will include the study of the amoeba, paramœcium, hydra, earthworm, clam, crayfish, grasshopper and frog. The entire course will occupy four or more hours per day, but students desiring to give not less than two hours per day will be allowed to enter and complete such work as the time will permit. Lectures will be given as they may be needed. Additional work will be offered to any who desire it, and laboratory instruction in either histology or embryology will be given to any who may wish to devote not less than four hours per day to the subject selected and have had the necessary elementary training.

Familiarity with some text-book is expected of students, both in physiology and zoology.

BOTANY—*Elementary Course.*—A course of 20 lectures, covering the morphology and physiology of flowering plants, with special reference to the correlation of structure and function. A knowledge of Gray's Lessons in Botany, or of some equivalent will be assumed. It will be possible, however, for those who have not such knowledge to compensate for their deficiency by industrious study of the *Lessons* in connection with the lectures.

In connection with this course, practical exercises will be given in the identification of plants belonging to the more difficult families (such as Labiatæ, Compositæ, etc.). It will be the endeavor so to elucidate the structure of the flowers that the student may feel confidence in his powers to name the plants accurately. Students undertaking this work should be familiar with the terms of descriptive botany.

Gray's Manual will be used. Gray's Structural Botany and Goodale's Physiological Botany are recommended for reading in connection with the lectures.

Advanced Course.—A laboratory course is offered for the study of the minute anatomy of plants, which will require fifteen to twenty hours per week. Microscopes, reagents and staining fluids will be provided, and students will be taught to use them and how to prepare objects for examination. The course will include a study of cells, cell-contents, the cell-wall, its thickening and markings, combination of cells into tissues and tissue systems.

Arthur, Barnes and Coulter's Hand-book of Plant Dissection and Bessey's Botany will be used.

CHEMISTRY.—The instruction will be mainly given as laboratory work under the direct personal supervision of the professor in charge. Occasional lectures will be given in each department to illustrate the principles and methods by which the students are to proceed. But so far as is practicable each student will be expected to perform the experiments for himself.

The laboratories are excellent, well equipped, well lighted and ventilated, and are in every way adapted to rapid and thorough work.

The course in GENERAL CHEMISTRY will consist of laboratory experiments performed by the student himself. These experiments will be such as will illustrate the laws of chemical science, and show the relation between facts and the scientific principles underlying those facts.

QUALITATIVE ANALYSIS may be entered upon at once by those wishing to do so who have previously studied General Chemistry, and also by those who may finish the above course in General Chemistry. This course will consist of:

1st. Testing of simple salts of known composition for both bases and acids.

2d. Ascertaining the composition of unknown substances containing not more than one base and one acid.

3d. Analysis of compounds containing more than one base and acid, including the separation of bases and acids as well as their detection.

QUANTITATIVE ANALYSIS both gravimetric and volumetric will be taught. Simple salts of known composition will first be analyzed in order to teach the general methods of quantitative work, and to give the student facility and accuracy in manipulation. Later more complex substances, as minerals, ores, and commercial products, may be taken up.

All these courses will be accompanied by chemical problems and exercises in Stoichiometry. A laboratory fee, sufficient to cover the actual cost of material used by each student, will be charged.

PHYSICAL GEOGRAPHY.—The instruction will be so shaped as (1) to develop in the teachers the conviction that the great body of facts with which this subject deals, lies within the range of the personal observation of all pupils; (2) to bring out clearly the *how* and *why* of the leading phenomena; and, (3) to present various means of experimental demonstration of leading phenomena and principles.

PHYSICS.—The effort will be to demonstrate experimentally as many of the principles of the science as possible with apparatus available in the average high school, and to show side by side with these experiments demonstrations of the same principles by means of simpler devises. No pains will be spared to fit the teachers for the better experimental teaching of this branch.

Most of the classes will meet from 8 to 1 A. M., leaving the afternoons at the disposition of the teachers.

The Madison City Library as well as that of the State Historical Society will be accessible for all the purposes of the school.

Board can be obtained in Madison at the rate of $3.00 to $4.00 per week for table board, and $4.50 to $5.50 per week including room rent.

A matriculation fee of $10, payable in advance at the office of the State Superintendent, to Hon. W. H. Chandler, Treasurer of the School, admits teachers to any two of the courses, and secures University Library and Laboratory privileges. For each additional course taken an additional charge of two dollars will be made.

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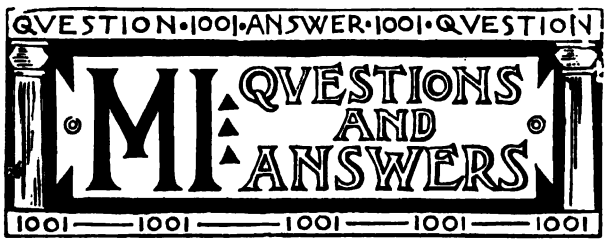

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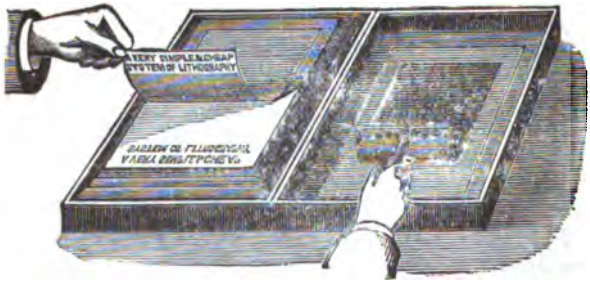

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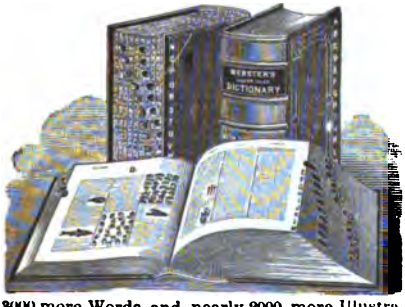

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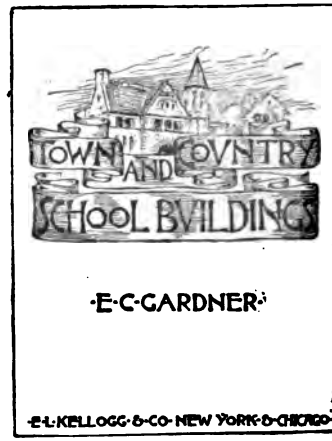

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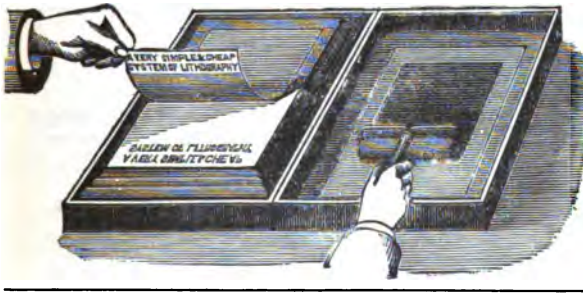

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Organ of the State Teachers' Association and of the Department of Public Instruction.

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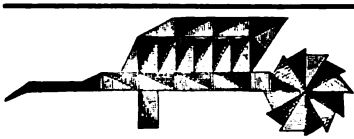

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VOL. XVIII. JUNE, 1888. No. VI.

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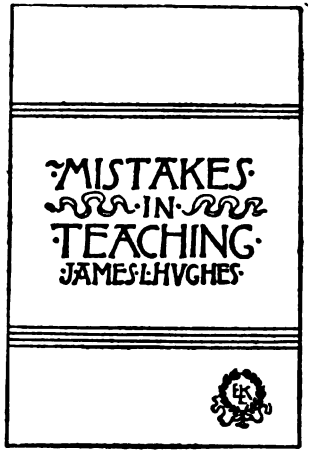

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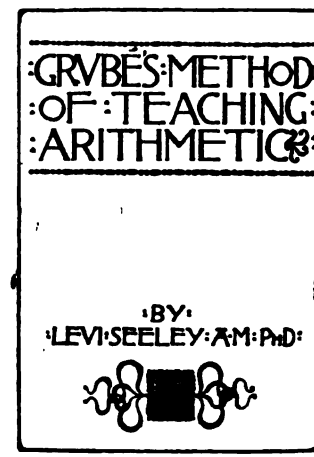

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MADISON, WIS.

Organ of the State Teachers' Association and of the Department of Public Instruction.

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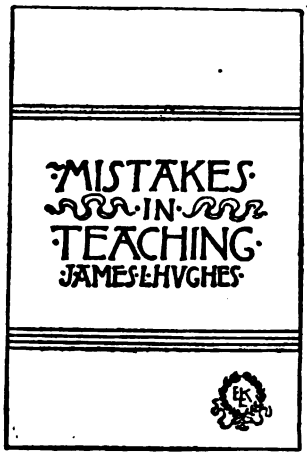

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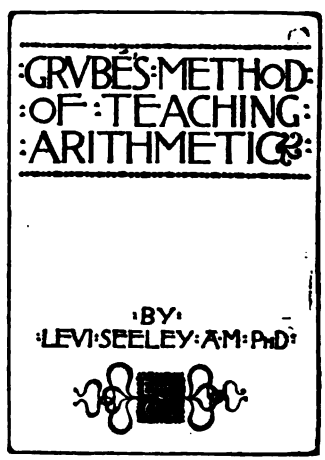

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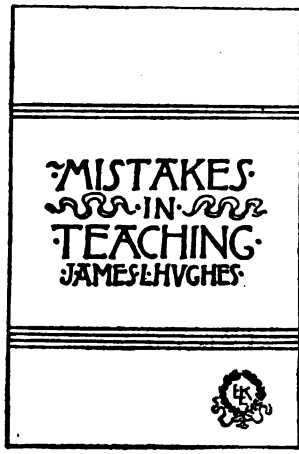

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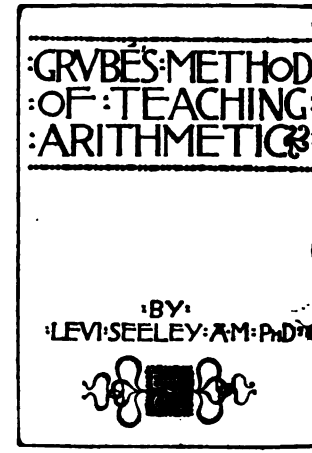

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Each Normal School, except the one at Milwaukee, offers an Elementary Course of two and one-half years, and an Advanced Course of two years. At Milwaukee, the latter course only is furnished. Certificates are issued upon completion of Elementary Course, and diplomas upon completion of Advanced Course. Persons may enter at such stage of the courses as their scholarship may warrant, but no diploma is issued to any person who has attended the school less than one year.

THE TERMS OF BOARD AT EACH LOCALITY ARE MODERATE.

Information as to board and other matters may be obtained by addressing the Presidents of the respective schools as follows:

Pres't D. McGregor, at Platteville; Pres't Albert Salisbury, at Whitewater; Pres't George S. Albee, at Oshkosh; Pres't W. D. Parker, at River Falls; Pres't J. J. Mapel, at Milwaukee.

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